



## **Review of policies impacting the Danish food marketing chain**

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# **Review of policies impacting the Danish food marketing chain**

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## ***Abstract***

*This study lists the major laws and regulations affecting firms in the Danish food industry. A combination of desk research, interviews and survey data is used to draw inference about policies' impacts, both short term and with regard to industrial adjustment in the long term. Information on costs and benefits associated with specific regulations or legislative areas was difficult to find, and survey results indicate that many firms are unaware of the financial implications of policies. The most significant short-term impacts on firms are from the Food Act, the Planning Act, the Environmental Protection Act and the Animal Protection Act. For longer-term industrial development, the same Acts are implicated, as well as Competition and Product Liability laws.*

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## Summary

This study focuses on the policy environment experienced by Danish food processing, distribution and retailing firms. It lists the major instruments of Danish policy toward the food sector and describes their legislative basis, their form, purpose and some apparent compliance impacts.

Information on costs and benefits associated with specific regulations or legislative areas was difficult to find. In the survey results, large numbers of firms claim not to know the financial impacts of numerous policies. From the available information, inference can be drawn about the short- and long-term impacts of regulatory areas on each stage of the food chain.

Summary of apparent short- and long-term policy impacts						
	Short term impacts			Long term impacts		
	Primary Production	Food Processing	Retailing	Primary Production	Food Processing	Retailing
The Food Act	XXX	XXX	XXX	XXX	XXX	XX
The Planning Act	XX	XX	XXX	XXX	XX	XXX
The Environmental Protection Act	XXX	XXX	X	XXX	XXX	
The Agricultural Act	XXX			XXX	X	
The Organic Act	XX	XX	XX	X	X	X
The Animal Protection Act	XXX	XX		XXX	X	
Competition Laws		XXX	X		XXX	XXX
Company Laws	X	X	X		XXX	XXX
The Product Liability Act	X	XX	XX	XXX	XXX	XXX
The Patent Act	X	XX	X			
The Trademark Act	X	XX	XX			
The Act on Shop Opening Hours			XXX			XXX

BLANK = no influence, X= low influence, XX = medium influence, XXX = high influence

This study finds the most significant short-term impacts on firms are from the Food Act, the Planning Act, the Environmental Protection Act and the Animal Protection Act. For longer-term industrial development, the same Acts are implicated, as well as Competition and Product Liability laws.

This report highlights the need for future research into short and long term impacts of policies that can identify costs and benefits. Of particular interest are (i) Danish firms' policy-related cost structures relative to those elsewhere in Europe and (ii) firms' views of the forms of cost impacts.



## **1. Introduction**

### **1.1. Background**

#### **1.1.1. Food industry policy**

The conventional foci of agricultural policy are farm incomes, food self-sufficiency and food prices. A more modern view recognises a broader range of actors in the food marketing chain. It also recognizes the association between developments in technology, commercial behaviour, information systems and market power. Moreover, the interests of consumers and food industry firms have gained ground against those of farmers.

The modern consumer sees the food industry as a source not only of nutrition, but also of a set of services. These services increasingly contribute to consumers' perceived entertainment and health, to their means of allocating increasingly scarce time, and to their appreciation of an overall shopping experience. Consumers' choices have reflected ethical, social and environmental preferences, to a far greater degree than has been seen before. At the same time as these changes are taking place, technological developments in production, processing and information systems have enabled food industry firms to perform new roles in the food system.<sup>1</sup> Food industry policy is developing accordingly, and this report maps those developments in Denmark.

For food industry firms, two views of policy are possible: as constraints or as opportunities. These are not necessarily contradictory, as firms recognize that new cost regimes may enable them to serve consumers that are willing to pay those additional costs, and more. While much policy tends to be an external influence on the food chain (e.g. regulations for food safety, quality standards and the provision of product information), the rights and responsibilities bestowed by policy may be allocated or shared within it (e.g. between farmers, processors, distributors and retailers). This has spawned a new set of policy concerns over conduct within the food chain and the relations that exist between its elements. Alongside these developments, policy's emphasis on farmers' incomes, rural development, and consumers' food expenditures is undiminished. This report offers a synthesis of the nature and impact of the major policy elements affecting Danish food processing, distribution and retailing.

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<sup>1</sup> For a synthesis of existing research on this topic, see Baker (2003).

### 1.1.2. The research project

This report is a part of the 3-year project “Perspectives for Development of the Danish Food Sector”. The project targets the policy environment surrounding the Danish food marketing chain,<sup>2</sup> and has the objectives:

1. to measure changes in function, structure and commercial practice in the Danish food industry, and compare and contrast these with developments in other countries;
2. to characterize vertical and horizontal relationships in the Danish food chain, and their role in efficiency;
3. to evaluate the efficiency and competitiveness of the Danish food system at each stage of the marketing chain;
4. to review and evaluate instruments of Danish, EU and foreign public policy in the development of the food marketing chain; and
5. to communicate research results in a number of media.

Objective 4 represents a significant challenge due to (i) the fact that such a synthesis of policy has not been attempted before and (ii) the sheer numbers of policy instruments, laws and enforcement agencies, and the variety of rights and obligations that they confer. Given scarce research resources, the authors’ judgment was applied in sorting and synthesizing available information. A further guide in preparing this report was the opinions expressed by firms in the project’s survey of Danish food industry firms<sup>3</sup> completed in early 2004 (see Baker et al. (2004), see text box 1).

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<sup>2</sup> The project is partially funded by the Innovations Law of the Danish Ministry of Food and Agriculture. A full description of this research project is available at [www.dfk.foi.dk](http://www.dfk.foi.dk)

<sup>3</sup> For a complete description of the survey and a summary of results see Baker et al. (2004).

## Box 1. Description of FOI survey of Danish food industry firms

The survey of 109 Danish food industry firms was based on a questionnaire with four parts:

- A. Basic information on size, structure and function;
- B. Firms' evaluation of the general policy environment;
- C. Firms' views of the impact of 30 specific policies;
- D. Firms' views on strategic issues at the interface between policy and commercial operation.

In part C, firms' assessment took the form of ticking boxes to indicate whether cost and price categories would, as consequence of the rules under each policy, "rise", "fall" or have "no impact". Firms were also permitted to claim that they "don't know" the commercial impacts of the policy. As in all surveys, responding firms also reserved the right not to answer any question.

The firms whose views appear in summary form are from a range of food industry sectors (meat, dairy, fish, fruits and vegetables, ingredients) and mainly from three stages of the food chain (processors – 69 of 109 firms; distributors – 29 of 109; suppliers of inputs – 9 of 109). It should be noted that the emphasis of the survey, as of this report, is the food marketing chain as a whole. The consequence of this is that firms' claims about impacts on prices and costs reflect impacts at all stages of the chain, not just the one at which a firm operates. Analysis of these results, particularly the capacity for firms to pass on cost increases arising from policy, is continuing.<sup>4</sup>

## 1.2. The current study

### 1.2.1. Purpose of the current study

The purpose of this paper is to identify and describe relevant food industry laws and regulations in Denmark. Its specific objectives are:

1. to identify selected Danish and EU laws relevant to the food industry;
2. to identify rights and responsibilities of food industry participants under those laws;
3. to summarize common compliance actions taken by food industry participants;
4. to summarize cases of breach, settlement and/or prosecutions;
5. to profile indicative cases; and
6. to identify imminent or pending changes in relevant laws.

This report provides a starting point for studies of the policy environment facing Danish food industry firms. It collects together in one document a list of relevant legislation governing specific aspects of the food industry. As far as is possible, it lists compliance actions and comments on likely cost and revenue impacts for firms. These are

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<sup>4</sup> Preliminary results are available at [www.dfk.foi.dk](http://www.dfk.foi.dk)

then compared with firms' views of the regulatory areas, as expressed in the survey of firms. In addition to firm-level impacts, current and likely future policy steps are discussed in terms of their potential impacts on long-term industrial development and structural change in the Danish food industry.

### **1.2.2. Methods used**

Research for this project took place in the period October 2003 to May 2004. It entails a combination of desk and field research, and has been closely associated with the survey of firms referred to above. The desk research includes identification of laws and related literature from periodicals, reports, newspapers and databases. Field research consisted of interviews with enforcing agencies, industry organizations and selected food industry firms. The purpose of field research was to determine impacts of legislation on individual firms (a static effect) and the forces it brings to bear on future development patterns for the food industry (a dynamic effect). To this end, interviews specifically requested information on costs and benefits incurred in connection with the laws and regulations.

Most of the laws identified in the desk research are supported by a number (in some cases a very large number) of detailed regulations and directives. The most significant of these have been examined for their impacts on all the elements of the food marketing chain: primary production, processing, distribution and retailing. In the field research, information on compliance costs proved difficult to discover. Information on commercial benefits of compliance proved, for the most part, to be confidential. As a consequence, the report has concentrated, where possible, on identifying practical compliance actions.

## **1.3. An industry view of policy**

### **1.3.1. Survey**

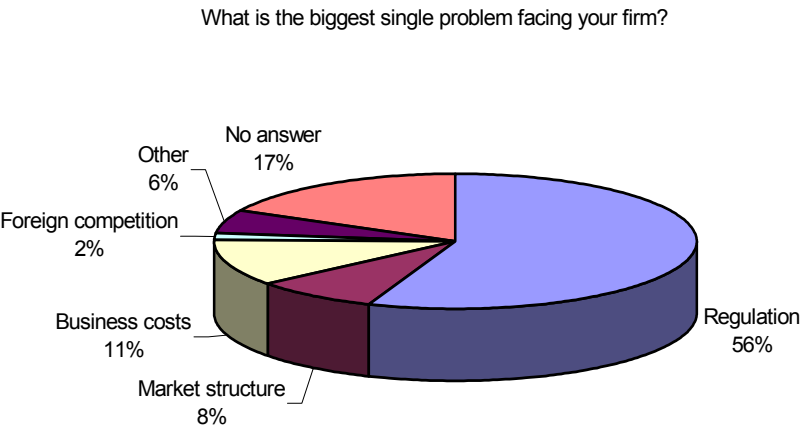
In the survey of food industry firms, a substantial majority (56%) of the 109 responding firms claim that regulation is their "biggest single problem" (figure 1). When asked what role policy plays in that problem, 50% of firms claim that policy is associated with the problem, of which most (42% of all firms) claim that policy "causes the problem" (figure 2). When asked to name the biggest single problem constraining the continued success of the Danish food industry, 25% of firms again responded "regula-

tion” (figure 3). Interpretation of firms’ claims about “regulation” is difficult, but the above results indicate firms’ consternation about Danish food industry policy.

In telephone interviews, Danish firms and industry organizations were reluctant to divulge information regarding financial implications of specific food industry policies and/or anticipated changes. Moreover, firms’ or lobby groups’ statements may reflect vested interest, rather than actual impacts.

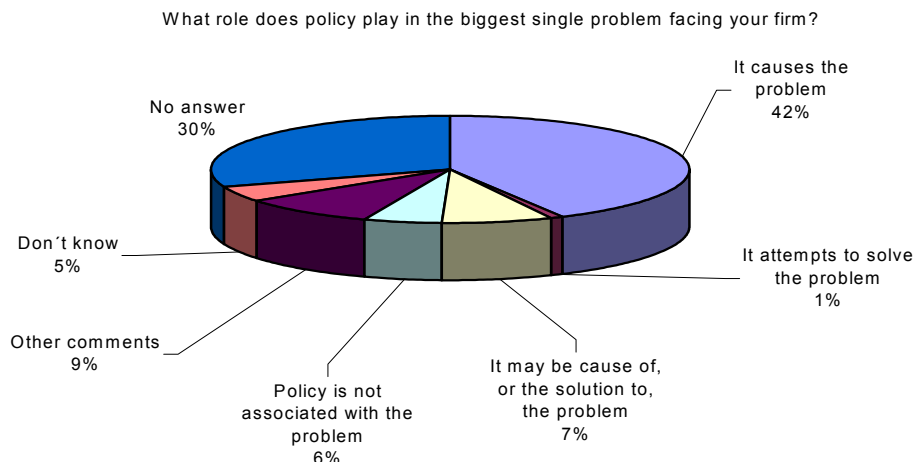
The FOI survey recorded firms’ claims regarding cost and price impacts of 30 different aspects of legislation. These claims are examined later in this report. A limited literature search is reported here to examine estimates of costs of food regulation across a range of countries and commodity sectors.

**Figure 1. Firms’ perceptions of their “main problems”**



Source: Baker et al. (2004)

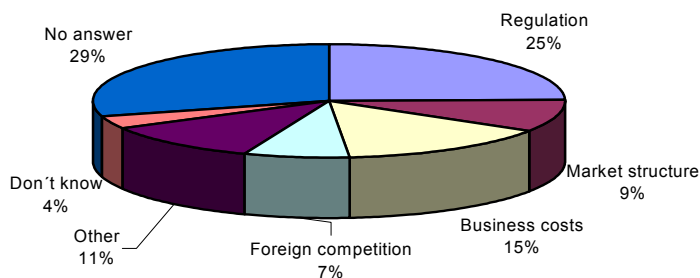
**Figure 2. Firms' perceptions of the role of policy in their main problems**



Source: Baker et al. (2004)

**Figure 3. Firms' perceptions of problems facing the Danish food industry**

What is the biggest single problem that threatens the continued success of the Danish food industry?



Source: Baker et al. (2004)

### 1.3.2. Forms of impact

Tables 1 and 2 depict forms and costs of the impacts of regulation on the food industry. Very little research is available to quantify the costs for the Danish food industry,

although a brief introduction to the topic is contained in the next section. In table 1, potential cost items are divided into fixed and variable costs. In table 2, this classification is used to propose short and long term impacts on firms and industries (in the right hand column).

Table 1. Forms of policy-induced costs faced by firms		
	Examples (associated with regulatory areas)	
Type of cost	Fixed cost	Variable cost
Direct compliance costs	<ul style="list-style-type: none"><li>• Changed plant layout (animal welfare and food safety)</li><li>• Change in machinery (food safety and environment)</li><li>• Rent on land (regional planning)</li></ul>	<ul style="list-style-type: none"><li>• Testing and inspection (food safety and environment)</li><li>• Transport arrangements (animal welfare)</li><li>• Information provision (food labelling)</li></ul>
Efficiency losses	<ul style="list-style-type: none"><li>• Under-utilisation of labour and buildings (shop opening hours)</li><li>• Stoppages for cleaning and inspections (food safety, environment)</li></ul>	<ul style="list-style-type: none"><li>• Reduced product volumes (animal welfare, environment, food safety, organic produce)</li><li>• Restrictions on chemical inputs (environment)</li><li>• Restrictions on supply and sales arrangements (competition law)</li><li>• Separation of product (organic produce)</li></ul>
Administrative costs	<ul style="list-style-type: none"><li>• Application procedures (food safety, regional planning)</li><li>• Information storage and provision (trace-ability, competition law, environment)</li></ul>	<ul style="list-style-type: none"><li>• Inspection fees (food safety and environment)</li><li>• Information collection (trace-ability)</li><li>• Information provision (various)</li></ul>
Indirect costs	<ul style="list-style-type: none"><li>• Loss of processing opportunities (regional planning)</li></ul>	<ul style="list-style-type: none"><li>• Loss of price advantage over substitute products (animal welfare, food safety)</li></ul>
Legal and insurance costs	<ul style="list-style-type: none"><li>• Insurance against claims (product liability)</li></ul>	<ul style="list-style-type: none"><li>• Payments for use of intellectual property (intellectual property law)</li></ul>
Social costs	<ul style="list-style-type: none"><li>• Poor access to shops (shop opening hours)</li></ul>	<ul style="list-style-type: none"><li>• Higher food prices (food safety, environment, animal welfare, regional planning)</li></ul>
Government implementation costs	<ul style="list-style-type: none"><li>• Consultation process</li><li>• Legislative costs</li><li>• Information provision</li><li>• Staff training</li></ul>	
Government monitoring and enforcement costs	<ul style="list-style-type: none"><li>• Certification (organic produce)</li><li>• Inspection</li><li>• Information collection, storage and provision</li><li>• Technical investigations and use of sanctions</li><li>• Police time</li></ul>	
Source: adapted from Jensen and Unnevehr (2001)		

Table 2. Examples of impacts of compliance					
Legislative area	Example of compliance action	Impacts on firms		Impact on industries	
		Short term	Long term	Structural and dynamic effects	
Food safety	HACCP adoption	<ul style="list-style-type: none"> <li>Investments</li> <li>Procedural change</li> </ul>	<ul style="list-style-type: none"> <li>Increased workload</li> <li>Change in product mix</li> </ul>	<ul style="list-style-type: none"> <li>Favours large firms over small firms</li> <li>Favours multi-plant firms over single-plant firms</li> <li>Favours vertical integration or co-ordination</li> </ul>	
	Salmonella reduction	<ul style="list-style-type: none"> <li>Changed procedures</li> </ul>	<ul style="list-style-type: none"> <li>Increased product control</li> <li>New product development</li> </ul>		
	Approval of new facilities	<ul style="list-style-type: none"> <li>Preparation costs</li> </ul>	<ul style="list-style-type: none"> <li>Prohibitions on some types of expansion</li> </ul>	<ul style="list-style-type: none"> <li>Favours multi-plant firms</li> </ul>	
	Food labelling	<ul style="list-style-type: none"> <li>Additional labelling costs</li> </ul>			
Regional planning	Location of processing plant	<ul style="list-style-type: none"> <li>Procedural costs</li> </ul>	<ul style="list-style-type: none"> <li>High-cost locations</li> </ul>		
	Location of shops		<ul style="list-style-type: none"> <li>Higher costs of operation</li> </ul>	<ul style="list-style-type: none"> <li>Higher consumer food prices</li> </ul>	
	Size of shops		<ul style="list-style-type: none"> <li>Higher retailing cost structure</li> </ul>		
Environment	Environmental impact approval	<ul style="list-style-type: none"> <li>Technical specifications</li> <li>Procedural changes</li> </ul>	<ul style="list-style-type: none"> <li>Restrictions on expansion</li> </ul>	<ul style="list-style-type: none"> <li>Restrictions on operations</li> <li>Restrictions on plant size</li> </ul>	
	Treatment of waste	<ul style="list-style-type: none"> <li>Technical specifications</li> </ul>	<ul style="list-style-type: none"> <li>Restrictions on expansion</li> </ul>	<ul style="list-style-type: none"> <li>Restrictions on operations</li> <li>Restrictions on plant size</li> </ul>	
	Slaughter procedures	<ul style="list-style-type: none"> <li>Investments in plant orientation</li> <li>Training and procedural change</li> </ul>	<ul style="list-style-type: none"> <li>Reduced product volume</li> <li>Change in product mix</li> </ul>	<ul style="list-style-type: none"> <li>Changed emphasis on export and domestic markets</li> </ul>	
Animal welfare	Transport requirements	<ul style="list-style-type: none"> <li>Higher priced raw materials</li> </ul>	<ul style="list-style-type: none"> <li>Reduced capacity utilisation</li> </ul>	<ul style="list-style-type: none"> <li>Changed pattern of plant location and marketing channels</li> </ul>	
	Restrictions on vertical arrangements	<ul style="list-style-type: none"> <li>Higher prices paid to suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Inability to compete with vertically-integrated foreign competitors</li> </ul>	<ul style="list-style-type: none"> <li>Advantage to co-operative ownership</li> <li>Sourcing from foreign suppliers</li> </ul>	
Competition law	Merger controls	<ul style="list-style-type: none"> <li>Lack of access to economies of scale</li> </ul>		<ul style="list-style-type: none"> <li>Inability to counter retail market power</li> </ul>	
Shop opening hours	Only small shops open on Sundays		<ul style="list-style-type: none"> <li>Lower capacity utilisation</li> <li>Costs associated with interrupted distribution</li> </ul>	<ul style="list-style-type: none"> <li>Favours small firms over large firms</li> </ul>	



### 1.3.3. Industry claims

The Danish Poultry Council estimates that significant policy-related costs accrue to broiler and egg producers in Denmark, in comparison with costs faced in other EU countries (table 3). Similarly, the National Committee on Pig Production (2004) claims that Danish pig producers' compliance with the Animal Protection Act significantly raises costs. This organization expects these costs to rise in future, and cites the example of imminent changes in rules on tethering sows.<sup>5</sup> These estimates address the production stage of the food marketing chain, but the main focus of this report is processing, distribution and retail.

**Table 3. Additional costs faced by Danish poultry producers, compared to those from other EU countries**

Regulatory area	Estimated additional Danish costs, compared with EU average (million DKK)	
	Broilers	Eggs
Environmental protection	19.9	5.4
Animal welfare	17.2	13.8*
Food safety	39.4	18.9
Total	76.5	24.3
Total (DKK/kg)	0.30	0.35
<b>Total (DKK/producer)</b>	<b>255,000</b>	<b>81,000</b>

\* production of eggs from battery hens.

Source: Danish Poultry Council, unpublished (2004)

### 1.3.4. Cost estimates

Research into the costs of compliance with food industry policies has largely focused on food safety.<sup>6</sup> Andersen (2004) reports the Danish pork industry's estimate for salmonella control alone: 100-135 million DKK in 2002 and 88 million DKK in 2003.<sup>7</sup> There is, however, substantial variation in such estimates by researchers, across countries, livestock species, and levels of safety achieved.

<sup>5</sup> Law no. 404 of June 26, 1998 on indoor housing of pregnant sows and gilts, to be mandatory in 2013.

<sup>6</sup> The discussion that follows addresses costs, rather than benefits.

<sup>7</sup> The increase is partially due to actions in response to new regulations on control of salmonella type DT104.

For individual contaminants or pathogens, control costs increase sharply with the effectiveness achieved. Jensen and Unnevehr (2001) and Unnevehr et al. (1998) found that control costs rise from 0.40 DKK to 9.80 DKK<sup>8</sup> per beef carcass and from 0.20 DKK to 1.75 DKK<sup>9</sup> per pork carcass, as pathogen reduction increases (based on logarithmic levels of residual pathogen concentrations achieved).

Generalized or systemic food safety improvement mechanisms, particularly HACCP, have been the subject of numerous cost studies. For the US pork industry, HACCP-related plant modifications (primarily fixed costs) have been estimated at 1.40-3.30 DKK/pork carcass,<sup>10</sup> and this figure rises sharply with target reduction levels. Narrod et al. (1999) report rising costs of *E. coli* control in beef packing plants, from 0.35 DKK to 3.15 DKK<sup>11</sup> per carcass as contamination is eliminated from 30%, as opposed to 100%, of production. Antle (2000) extrapolated from a model of costs of quality improvement in the meat industry, to find that a 20% improvement in safety would add costs in the range 0.15-1.25 DKK/kg of carcass weight.

For all food safety regulation in the Danish pork industry, Andersen (2004) reports the estimate of 415 million DKK per year, or an annual cost of some 18.80 DKK per pork carcass. Antle (2001) estimates that, assuming a general level of 20% effectiveness, the cost to the entire US food industry of food safety regulation is in the range 3.500 – 35.000 milliard<sup>12</sup> DKK.<sup>13</sup>

Most studies conclude that the costs of HACCP are higher (per unit of production) for small firms than for larger ones, although Antle (2001) found that this only applied in the case of very small plants. Siebert et al. (2000) observe that the large up-front investments of developing and implementing HACCP, makes small firms' costs rise proportionally more than do large firms'. A case study from India (Deodhar, undated) on 50 firms' HACCP implementation also finds this. One study of the Texas beef industry concludes that HACCP introduction and operation raise costs by an average of 0.75 DKK/kg<sup>14</sup> (Siebert et al., 2000).

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<sup>8</sup> \$US 0.20-\$US 1.40/beef carcass

<sup>9</sup> \$US 0.03-\$US 0.25/pork carcass

<sup>10</sup> \$US 0.20-0.47/pork carcass.

<sup>11</sup> \$US 0.05-\$US 0.45/beef carcass

<sup>12</sup> 1 milliard = 1 x 10<sup>9</sup>

<sup>13</sup> \$US 500 million – 5 billion.

<sup>14</sup> \$US 0.05 (costs between \$0.02 and \$0.20 reported by respondents)

The base level of safety also affects costs: a US meat industry study (Antle, 2000) shows that the increase in annual total variable cost for beef, pork and poultry is in the range 3.75 milliard DKK (assuming products were 90% safe prior to the new regulations) to 33.6 milliard DKK (for base safety at 50%).<sup>15</sup> Averaged over all three species, the costs range from 0.15 DKK to 1.25 DKK/kg. This, in the context of prices of meat that range from 8.4 DKK/kg (poultry) to 16.10 DKK/kg (Beef).<sup>16</sup> To date, actual costs incurred by meat and poultry firms are still small relative to total costs and product prices. They may be around 1-2% of current processing costs (Jensen and Unnevehr, 2001).

Studies of the cost impacts of environmental policies on the food industry have mostly addressed the production level, for example relating pesticide use reductions to yield declines. Gren (1994) found that a hypothetical 50% reduction in pesticide use in Sweden would result in a 6% reduction in farm income. The costs to food industry firms of water, air and noise pollution abatement, as well as of other regulation (e.g. land use planning, shop opening hours, animal welfare, etc) appear not to have been estimated.

#### **1.4. Structure of the report**

In Chapter 2 the legislative process in Denmark and the relationship between Danish and EU law are described. The most significant Danish government organisations, and their food policy implementation and monitoring responsibilities, are outlined. In the Chapters 3 to 11, a selection of Acts is described in terms of their purpose, their main rules, their main impacts and their constituent monitoring procedures. In each case, firms' responses to the FOI survey are presented. Breaches and sanctions are summarized in Chapter 12, and Chapter 13 outlines pending legislation. The concluding remarks on impacts on the food chain and industrial dynamics, and firms' perceptions of them, are found in Chapter 14.

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<sup>15</sup> \$US 535 million to \$US 4.8 billion

<sup>16</sup> 1-9 cents and \$US 0.60 (poultry) to \$US 1.15 (beef)

## 2. The Policy Environment for the Danish Food Marketing Chain

### 2.1. Definitions

Discussion of the legal basis of food industry policy requires repeated use of the following terms:

- **Legislation** is the result of Danish parliament's consideration of **Bills**. Bills form the basis for **Acts** of parliament.
- An Act of parliament results in a **law**, which is a legal framework implemented by parliament;<sup>17</sup>
- **Regulations**<sup>18</sup> are detailed sets of arrangements for implementing an Act. Regulations dictate the administrative procedures and required actions ("**compliance**") for firms and individuals. Regulations also dictate the procedures and required actions for authorities implementing and enforcing each Act; and
- **Directives**<sup>19</sup> provide further guidance and instructions (on implementation and other issues) to authorities, firms and individuals.

### 2.2. The Danish legislative process

About 300 Bills are presented to the Danish parliament each year,<sup>20</sup> about half of which are eventually adopted as Acts.<sup>21</sup> Individual members of Parliament introduced Bills.

About 75% of Bills are introduced by members from the party of government. Introduction of a "government" Bill is commonly accompanied by a Minister's establishing a commission to examine the need for, and form of, the new legislation. The commission's output is presented in a report, which includes a draft Bill. The mechanisms for targeting the most relevant problems, and considering the key points of view, include the involvement of experts and representatives of interest groups in the commission's activities, and by circulating the draft Bill for comments.

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<sup>17</sup> Folketing

<sup>18</sup> Bekendtgørelse

<sup>19</sup> Vejledning

<sup>20</sup> including a number of enactments of EU legislation.

<sup>21</sup> [www.ft.dk](http://www.ft.dk)

A Bill must be read three times in the parliament before it can be adopted as an Act.<sup>22</sup> The main work of commissions (as described above) comes between the first and second readings: the first reading being a “reading in principle”. The commission examines the details and during the second reading the individual sections are discussed and amendments are made. Adoption of the entire Bill at the third reading requires a parliamentary majority.

## **2.3. Relationship between Danish and EU legislation**

### **2.3.1. Communications from Brussels**

Member States and their governing institutions and courts are bound directly by Community law and must comply with it in the same way as with their national laws. The forms taken by EU-originated legislation are:

- regulations: these are binding in their entirety and directly applicable in all Member States. Notably, regulations are in force as soon as the European Parliament has passed them; and
- directives: these are binding in all Member States as to the outcome to be achieved. Member States retain some flexibility in approach, form, emphasis, choice of regulatory authority and means of implementation.

The most significant EU-regulation regarding food is Regulation no 178/002 of 28 January 2002. This regulation lays down the general principles and requirements of food law, establishes the European Food Safety Authority and outlines procedures in matters of food safety.

### **2.3.2. Implementation**

In implementing an EU directive, a member state may target an outcome that is more demanding than that identified in the directive. This facility is available only in cases where the member state can demonstrate that the stricter interpretation is necessary to protect either the environment, or public health. This facility is relevant to food production, processing, distribution and sales, through regulation on the environment and food safety.

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<sup>22</sup> Section 41 in the Danish Constitutional Act

In terms of judgements regarding countries' legislative compliance with EU law, there are two forms of communication from Brussels:

- decisions: these are fully binding on those to whom they are addressed;
- recommendations and opinions: these are non-binding, “declaratory” instruments

## **2.4. Means of influencing Policy**

The legislative process in Denmark is interactive, featuring a number of communication channels between and amongst individuals, firms, and various levels of government (see figure 4). Some channels are formalised by the advisory commissions (or committees) described above, and some are formed as specified by an Act. An example is the Advisory Committee on Food,<sup>23</sup> members of which are appointed by groups representing consumers, industry organisations from all stages of the food marketing chain, and labour organisations.

The significance of public debate in Danish food industry policy provides a strong role for the media. Many food industry firms, and probably all food industry organisations, dedicate substantial resources to media relations and press information services. However, a study by Espensen (2002) concludes that the media's focus in the legislative process is quite different to that of elected representatives and civil servants:

- the media is concerned with cases concerning persons and firms;
- policy makers are more concerned with political agendas or important questions of ethics or economics

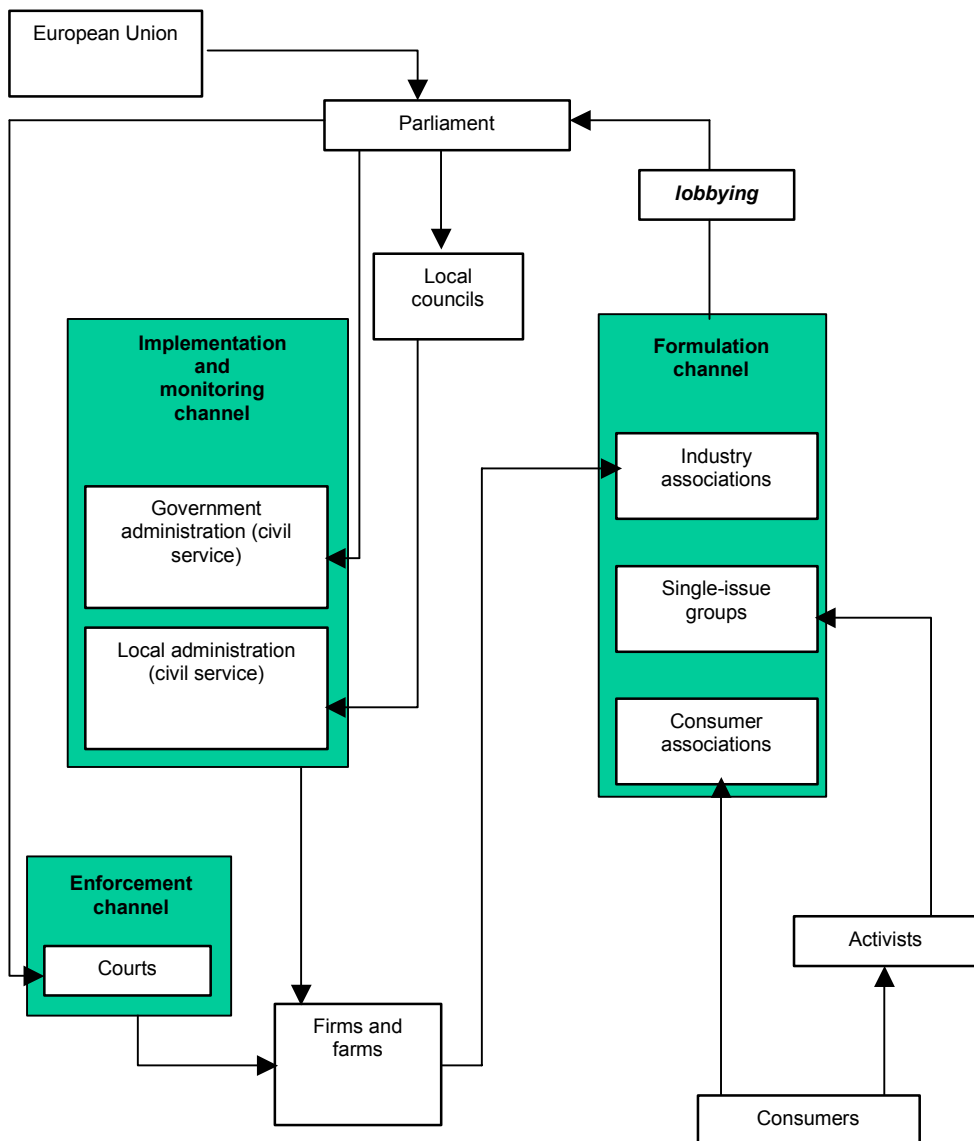
Industry organisations and special interest groups use formal and informal lobbying contacts with Danish policy makers and senior civil servants. Tables 4-7 summarize a survey<sup>24</sup> of 30 members of the Danish parliament.

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<sup>23</sup> Formed pursuant to clause 69 of the Food Act.

<sup>24</sup> See [www.kommunikationsforeningen.dk](http://www.kommunikationsforeningen.dk)

**Figure 4. Schematic view of policy communication channels**



**Table 4. Frequency with which members of parliament are approached by lobbyists**

Frequency	% of members approached
Never	0 %
Once a year	0 %
Once a month	13 %
Once a week	50 %
More often than once a week	37 %

**Table 5. Types and sources of lobbyist**

Identity of lobbyists	% from that source
Organisations	22 %
Firms	17 %
Local politicians and party members	28 %
Other	33 %

**Table 6. Degree of influence of lobbyists on members of parliament**

Degree of influence on members	% of members responding
None	7%
Some	93%
Substantial	0%

**Table 7. Degree of influence of lobbyists on policies**

Degree of influence on the content of policy	% of members responding
None	0%
Some	83%
Substantial	17%

Source: [www.kommunikationsforeningen.dk](http://www.kommunikationsforeningen.dk). (2003)



## **2.5. Major Danish authorities in policy implementation**

This section identifies authorities throughout the food marketing chain, and describes their areas of competence (see table 8). The most important authorities for implementing laws and regulations in the food chain are:

- The Danish Veterinary and Food Administration (DVFA)
- The Plant Directorate
- The Competition Authority
- The Danish Patent and Trademark Office
- The Commerce and Companies Agency
- Counties
- Municipalities.

**Table 8. Major authorities in Danish Food Industry Policy**

Agency	Description	Other notes	Role in enforcement, monitoring and industry liaison
Danish Veterinary and Food Administration (DVFA)	Responsible for the regulation and inspection of food throughout the food marketing chain. There are 2 branches of administration: 1. The Danish Veterinary Service. Responsible for veterinary emergency services (including inspections re. import and export of livestock and animal products and GMO). Also responsible for issues of animal welfare, animal husbandry and the use of veterinary drugs. 2. The Danish Food Department. Responsible for the preparation of legislation (e.g. food import/export regulations, GMO). Responsible for inspection in the food industry.	Established 1 July 1997 by merging the Danish National Food Agency and the Danish Veterinary Service. The objective of the merger was to co-ordinate, simplify and increase the efficiency of food inspection for the industry. It was also targeted at improving the efficiency of the processes by which legislation is made.	Monitoring and inspection of food handling and processing is carried out by 11 regional food centres, <sup>25</sup> which are sub-departments of the DVFA. The regional food centres carry out veterinary inspection. The regional food centres function as knowledge resources and provide information and consultancy services to livestock owners, veterinarians and food industry firms, as well as to consumers. The regional food centres are responsible for inspection of organic food and of the processing plants dealing with organic food.
Plant Directorate	Responsible for formulation of the regulations concerning vegetables and horticultural products, and seeds. Responsible for certification of seed and plants. Responsible for laws and regulations on organic primary production. The certifying and controlling body for organic farming.	Note that the Plant Directorate is not responsible for inspection re: organic foods and products.	Inspection of organic production units <sup>26</sup> to ensure that the rules on organic production are being followed, so adhering to certification conditions.

<sup>25</sup>”Fødevarerregioner”

<sup>26</sup> Including authorised organic farms, and authorised organic suppliers of seeds, plants, feedstuffs and fertilisers.

Table 8. Major authorities in Danish Food Industry Policy (continued)			
Competition Authority	Responsible for day-to-day management on behalf of the Competition Council (see Chapter 9). The Competition Council decides on major cases and test cases on the basis of submissions made by the Competition Authority.	The Competition Authority monitors the competitive environment in general. It may initiate investigations and enforcement procedures of its own accord, or pursuant to complaints from the public.	Responsible for monitoring competition and anti-trust legislation. A large part of the Authority's work is reviewing decisions on individual agreements submitted by firms (see Chapter 9).
Patent and Trademark Office	Responsible for award and registration of patents and trademarks.	Not responsible for enforcement of rights granted	
Commerce and Companies Agency	Responsible for enforcing the Act on Shop Opening Hours.		
Counties	Responsible for enforcing the Agricultural Act, the Planning Act and the Environmental Protection Act.	Counties' and municipalities' activities are dominated by the granting of permits.	Responsible for monitoring of firms' activities in relation to the Planning Act In cooperation with counties, municipalities monitor firms' compliance with the Environmental Protection Act. Counties are responsible for monitoring distribution of farm land in accordance to the Agricultural Act. This is performed in cooperation with local Agricultural Commissions (see Chapter 7).
Municipalities			

### **3. The Food Act**

#### **3.1. Purpose of the Act**

The purposes of the Food Act<sup>27</sup> (1998) are to ensure that consumers receive high quality food, to protect consumers against misleading marketing of foods, to promote healthy eating habits, to create reasonably fair and common conditions for the producers and retailers of foods, and to promote the export of Danish food products.

#### **3.2. Main Rules**

The Food Act covers:

- Food safety and food composition (chapters 2, 3 and 5);
- Marketing and labelling of foods (chapters 4 and 6);
- Primary production of foods (chapter 7);
- Design and operation of food processing facilities (chapters 8 and 9);
- Diet and public nutrition (chapter 14); and
- Authorities, enforcement and control (chapters 11, 12 and 15).

#### **3.3. Stages of the food chain influenced by the Food Act**

##### **3.3.1. Farm stage**

The Act authorises the Minister Food, Agriculture and Fisheries to stipulate specific rules concerning hygiene, health and quality aspects of food produced on farms.

##### **3.3.2. Processing and retail stages**

All firms, including those active in the food industry, must be registered as business enterprises. Each establishment (many of which may be owned by a single firm) engaged in processing, handling, storage, wholesaling or retailing of food products, must also receive approval<sup>28</sup> from regional food centres of DVFA before commencing operations. Applications for approval follow the Act's Instructions (e.g. on Fresh

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<sup>27</sup> Act no. 471 from July 1<sup>st</sup>, 1998.

<sup>28</sup> Reg. no 26 from January 18, 2002 on approval of food processing establishments

Meat,<sup>29</sup> on Dairy and Eggs<sup>30</sup>). Such Instructions contain detailed specifications on the construction and design of the processing facilities, veterinary control procedures, handling and storage of the products, disposal of waste, education of the employees regarding hygiene, and food safety procedures. Recent additions to these Instructions include a substantial number of regulations addressing the threat posed by salmonella, and veterinary control in slaughtering operations.

Applications for approval feature provision of information about self-audit, pursuant to the Food Act's Instruction on Self-audit.<sup>31</sup> Food processing establishments are required to formulate, implement and operate Hazard Analysis and Critical Control Point (HACCP,<sup>32</sup> see text box 2) procedures. Several Danish food industry organisations have established sets of HACCP and other self-audit procedures (which are approved of by DVFA) that firms can adopt as a package, and specify in their application for approval.

## **Box 2. Notes on HACCP systems**

Firms' self-audit must be performed in accordance with the HACCP system which includes:

- Analysis of possible health risks and identification of where, and in which processes, such risks may arise;
- Determination of which risks can be controlled, i.e. risks that can be reduced or eliminated (critical control points);
- Determination of maximum levels of variables, and implementation of effective control procedures at the critical control points;
- Resolution of problems identified by the control procedures; and
- Regular audits of the analysis, the critical control.

Submission of applications is followed by an inspection by DVFA. Approved retail and food service establishments (although not food processing plants) receive a "1<sup>st</sup> grade Smiley".<sup>33</sup> There is no charge for the application and inspection procedures.

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<sup>29</sup> Reg. no. 798 from September 19, 2003

<sup>30</sup> Reg. no. 950 from November 27, 2002

<sup>31</sup> Reg. no. 795 from September 18, 2003 on self-auditing

<sup>32</sup> Reg. no. 198 from March 25, 2004

<sup>33</sup> named after the graphic representation of graded levels of compliance.

Food industry firms must also comply with the Food Act's very extensive regulations on labelling of food. Declarations of content must meet the minimum requirements in the Labelling Directive<sup>34</sup> (see textbox 3).

### Box 3. Requirements for labelling of food

The Food Act's Labelling Directive requires that products packaged for sale directly to consumers must be labelled with the following information:

- The name of the producer and country of origin
- Specification of product type
- Ingredients (including any ingredients derived from Genetically Modified Organisms)
- Volume of the ingredients
- Alcohol content (if any)
- Net weight
- Expiration date and any special storage or usage instructions

*Source: The Food Act*

The Labelling Directive specifies rules for additional declarations on food labels:

- certain products must be accompanied by additional labelling (e.g. meat, spreadable fats and dairy products must have an identified fat content and calorific values),<sup>35</sup>
- claims that a food product is health-enhancing, or rich in certain vitamins and minerals, are not allowed. As a consequence, so-called "functional foods" have not appeared on the Danish market.<sup>36</sup> A recent decision of the European Court will effectively legalise functional foods in Denmark, although they will still require prior approval from the DVFA.<sup>37</sup>

The Food Act also outlines the rules on product trace-ability,<sup>38</sup> based around the applicable EU regulations<sup>39</sup> (textbox 4).

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<sup>34</sup> Reg. no. 530 from June 18, 2003 on labelling of food.

<sup>35</sup> Instruction No. 9217 on Labeling Food Products, May 1, 2004.

<sup>36</sup> Børsen, February 9, 2004

<sup>37</sup> currently some 30 applications for approval have been filed with the DVFA.

<sup>38</sup> Also known as "identity preservation"

<sup>39</sup> EU Directives 92/102/EF and 2000/15/EF.

#### Box 4. Trace-ability of meat

All farms selling livestock must be registered in the Central Husbandry Register, and all animals marked by either an ear tag (or for pigs a tattooed number issued by the abattoir to which they are delivered). Poultry need not be individually marked but producers of eggs and poultry must be registered. Livestock farms all have a farm registration number.

When animals are slaughtered, each is assigned an individual number, which can be associated with the farm registration number. All information concerning the carcass' weight and characteristics, as well as any veterinary comments and results of a laboratory test for salmonella, and other bacteriological tests, are stored under the animal's individual number. Following veterinary inspection, carcasses are marked with the approval number<sup>40</sup> of the abattoir. If the meat is further processed outside the abattoir, it shall be marked with the approval number of the further processing company. Processed meat is assigned a batch number by the processing plant. All meat must be marked with a reference code linking it to the animal's country of birth, country of rearing, the country of slaughtering, and country of processing.

Trading documents accompanying meat in transit specify the abattoir approval number(s). Linking together all these numbers allows meat to be traced back to the date and time of slaughter and processing, and thereafter to the farm, and to the animal.

*Source: Regulation on tagging, registration and movement of animals, No. 759, September 10, 2002.*

### 3.4. Main monitoring authorities and procedures

Following approval, DVFA's "regular" inspection work is mostly monitoring compliance, and reporting on self-audits by establishments. Inspections examine facilities and procedures for handling and sale of food products. Inspections are usually unannounced, and the establishment is compelled to provide personnel and information to assist the inspectors.

Analytical testing acts as a supplement to inspection, and needs for it are determined during inspection. Samples of raw materials, semi-finished goods, packaging and additives may be taken. Samples are sent for analysis to DVFA laboratories.

After each inspection, the supervising officer reports on the inspection results, and a new "Smiley" is awarded. The accompanying report is publicly available at the "Smiley" website,<sup>41</sup> which also displays the four most recent inspection reports for each establishment, arranged and searchable by names. Retailers must display to customers the most recent "Smiley report".

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<sup>40</sup> "autorisationsnummer"

<sup>41</sup> [www.foedevaredirektoratet.dk/Foedevare/Smiley/forside.htm](http://www.foedevaredirektoratet.dk/Foedevare/Smiley/forside.htm)

### **3.5. Apparent implications of compliance with the Food Act**

Firms and organisations interviewed noted that regulations stipulating processing plant design, and specification of building materials, introduce additional fixed costs. Where these impact operations and procedures, they can limit throughput, incurring costs from reduced capacity utilisation.

Firms also expressed concern over the costs of increasing demands for information collection, storage and provision. Costs associated with food labelling appear to be less of a concern. HACCP and other self-auditing procedures, particularly their documentation, are seen as sources of increased variable and fixed costs.

Firms and organisations were not willing to detail financial costs associated with policy areas. In the next section, survey results are used to assess the nature (but not the extent) of financial impact.

### **3.6. Food industry firms' views about compliance with the Food Act**

Table 9 summarises the results from the survey of firms, addressing 10 areas of regulation associated with the Food Act. The most striking aspects of the results are the number of responses “I don’t know”, and the number of non-responses. For the seven information-related regulatory areas (table 9(a)), up to 80 firms of 109 claimed not to know or did not respond.

In the case of regulation concerning trace-ability, 37 of 109 firms claim that variable costs rise due to regulation, and 41 of 109 firms claim that fixed costs rise. Trace-ability is also distinctive in that 29 of 109 firms claim that their product sales prices rise as a consequence of regulation. For the first six regulatory areas in table 9(a), these numbers range from a low of 8 (product nomenclature) to a high of 18 (product quality description for both inputs and products). A significant number of firms (25-45 of 109) claim not to know the impact of the regulatory areas on sales prices, and around 25 of 109 failed to respond).

Regarding prices for raw materials, 30-40 of 109 firms claim that these seven areas of regulation have no impact on purchase prices for raw materials. Trace-ability is again seen to be an unusual case in that 30 of 109 firms claim that regulation raises purchase prices.



For regulation relating to information, it appears that more firms believe that costs are raised, than believe that sales prices are raised. This is some indication that firms believe that they meet the costs themselves, rather than passing them on along the food marketing chain as increased prices (eventually to consumers).<sup>42</sup>

Table 9(b) summarises firms' claims about food safety regulation. As in table 7(a), 30-45 firms out of 109 claim either not to know the impacts of these regulations or have not responded. Almost 40 firms out of 109 claim that fixed and variable costs rise due to food safety regulations, but fewer claim that purchase and sales prices rise. As is the case for information-related policy areas, firms appear to interpret food safety as an additional cost that cannot always be passed on in the marketing chain.

**Table 9 (a). Firms' impressions of compliance implications of regulations relevant to the Food Act – information related regulatory areas**

Regulatory area		Number of firms claiming each impact			
Rules of product nomenclature		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	8	7	9	9
	No impact	26	28	25	25
	Fall	0	0	0	0
	I don't know	48	46	47	46
	No response	27	28	28	29
Rules on product quality description when raw materials are purchased		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	18	21	22	21
	No impact	35	32	31	33
	Fall	1	1	0	0
	I don't know	31	30	31	31
	No response	24	25	25	24
Rules on product quality description when products are sold		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	18	17	25	24
	No impact	42	42	34	35
	Fall	0	1	0	0
	I don't know	25	24	25	26
	No response	24	25	25	24

<sup>42</sup> A closer examination of the firms' claims regarding policy impacts on costs and prices is available in Baker (2004).

**Table 9 (a) (continued). Firms' impressions of compliance implications of regulations relevant to the Food Act – information related regulatory areas**

Regulatory area		Number of firms claiming each impact			
Rules on provision of information about products containing Genetically Modified Organisms		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	15	19	17	17
	No impact	35	33	34	36
	Fall	1	0	0	0
	I don't know	34	32	33	32
	No response	24	25	25	24
Rules on provision of information about products' country of origin		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	13	12	12	13
	No impact	47	46	44	46
	Fall	1	1	1	1
	I don't know	24	25	27	25
	No response	24	25	25	24
Rules on provision of information about products' production methods		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	13	14	17	17
	No impact	43	41	38	41
	Fall	1	2	2	1
	I don't know	30	29	29	29
	No response	22	23	23	21
Rules on products' identity preservation, and trace-ability		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	29	30	41	37
	No impact	38	33	26	30
	Fall	0	3	1	0
	I don't know	19	20	19	21
	No response	23	23	22	21

**Table 9 (b). Firms' impressions of compliance implications of regulations relevant to the Food Act – food safety related areas**

Regulatory area		Number of firms claiming each impact			
Food safety regulation		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	31	27	38	39
	No impact	43	41	29	32
	Fall	0	3	0	0
	I don't know	15	15	19	17
	No response	20	23	23	21

## **4. The Planning Act**

### **4.1. Purpose of the Act**

The purpose of the Planning Act<sup>43</sup> (2002) is to ensure that planning facilitates sustainable development and use of land, which respects citizens' living conditions and conserves wildlife and vegetation.

### **4.2. Main Rules**

The main regulations in the Planning Act specify:

- Planning procedures;
- Environmental protection (through Environmental Impact (VVM) rules);
- Protection of farm land for agricultural purposes; and
- Permits for establishing food processing or retail sale facilities.

The Planning Act lays down rules for zoning of Denmark's territory as urban, summer cottage, and rural areas. It establishes the framework for regional and municipal planning:<sup>44</sup>

- counties are responsible for establishment of a plan for the development of the county (regional plans) every four years;
- municipalities must detail plans for the development strategy for the municipality (municipal plans) every four years;
- for areas requiring special attention, the municipality must prepare plans (local plans), as and when needed; and
- an overall national planning framework is approved by parliament every four years.

Local plans must comply with the strategy outlined in the municipal plan, and the municipal plan must comply with the framework outlined in the regional plan. Regional and municipal plans must include details on planning issues such as areas reserved for shops, industrial use and nature preservation. Plans lay down rules for transfer of areas from rural zones to urban zones.

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<sup>43</sup> Act no. 763 from September 11, 2002.

<sup>44</sup> Danish Forestry and Nature Agency (2004)

The Planning Act contains certain elements of environmental protection in the form of rules on commercial animal production, management of wastes (e.g. manure) and runoff (e.g. from silage). These are further described below.

#### **4.3. Stages of the food chain influenced by the Planning Act**

Special rules apply to development in rural zones:

- agriculture is the priority economic activity;<sup>45</sup>
- buildings needed for agricultural purposes may be constructed;
- new independent dwellings, urban businesses (including processing of food) require a rural zone permit;
- certain farm building projects require a rural zone permit if the structure cannot be deemed an economic necessity for the stated agricultural purpose or if the building project is not in the vicinity of (typically not more than 20-30 m away from) the farms' existing buildings.<sup>46</sup>

Construction of major food processing facilities will normally require a local plan and/or additions or amendments to the regional plan in question.<sup>47</sup>

The Planning Act is also of major importance in connection with establishment of retail facilities, as it includes rules on shop location and size (see textbox 5). In general, local plans must ensure that various shop categories are available in small and medium-sized towns as well as in all the parts of larger towns, and cities. Furthermore, local plans must ensure that the distances between the shops and the potential customers are not excessive.<sup>48</sup>

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<sup>45</sup> as laid down in the Agricultural Act

<sup>46</sup> The Planning Act clauses 35 and 36

<sup>47</sup> This was the case, for example, in the construction of new processing facilities for meat processing firm Danish Crown in Horsens, comprising addition no 10 to the Regional Plan for Vejle County (Danish Crown, 2004).

<sup>48</sup> The Planning Act clauses 5c, 5d and 6b

## Box 5. Shop size

The Planning Act requires that the regional plan must include guidelines for placement, and maximum size, of retail shops. These apply when the size of the facility exceeds 3.000 m<sup>2</sup> (for grocery stores) and 1.500 m<sup>2</sup> (for speciality stores).

The rules are reported to have brought to a stop the establishment of shops exceeding 3.000 m<sup>2</sup> since the rules were introduced in the mid-1990s. New shops typically are around 3.000m<sup>2</sup> in dimension. There have been some attempts at dividing larger areas into grocery stores and speciality stores. According to DSK, the retail chain FØTEX has used this model in three initial locations, but has not continued with the model despite obtaining planning approval for 3 later projects.

*Source: Interview with DSK (2004).*

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### 4.4. Environmental impact assessment

Local governments can require, under the Planning Act, Environmental Impact Assessment (“Vurdering af Virkningerne på Miljøet” or VVM) of projects.<sup>49</sup>

### 4.5. Main monitoring authorities and procedures

The Minister for the Environment establishes the planning framework through national planning initiatives, national planning directives and guidelines. At the next level, regional planning is managed by 10 County Councils, the Greater Copenhagen Authority and the Bornholm Municipal Council. Municipal councils are responsible for comprehensive municipal and local planning. Monitoring generally concerns ensuring consistency with those plans.

Municipal councils issue permits for construction and reconstruction, and for changes in the use of rural land. Issue of a permit requires that the project in question conform with the regional, municipal and local plans. Local councils also decide whether further investigations (such as VVM-reports) are necessary. Decisions made by these authorities may be appealed to The Nature Protection Board of Appeal and The Environmental Approval Board.<sup>50</sup>

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<sup>49</sup> Reg. No. 428 from June 2, 1999 with later changes issued pursuant to the Planning Act clause 6c.

<sup>50</sup> Miljøklagenævnet and Naturklagenævnet

4.6. Apparent implications of compliance with the Planning Act

Construction of buildings in rural zones confronts the Planning Act’s sharp distinction<sup>51</sup> between ”commercial farms” and ”hobby farms”.<sup>52</sup> The Act is very restrictive on granting permission to construct new buildings on ”hobby farms”.

It is reported to the authors that the procedure of gaining a VVM approval is very time-consuming, whether for farms or food processing plants. Once obtained, approval may specify restrictions on expansion possibilities.

As the Planning Act regulates locations and areas designated for shopping purposes, the Act has a restrictive influence on retailers. The Act limits development possibilities for large shopping centres outside the city centre, and so increases the cost of expansion (at existing sites in town centres).

4.7. Food industry firms’ views about compliance with the Planning Act

About 80 of 109 surveyed food industry firms either claim not to know the cost and price impacts of legislation on land use and planning, or did not respond to the question. Of the remaining firms, the overwhelming majority claimed that there was no impact on fixed and variable costs, and no impact on sales and purchase prices (table 10).

Tabel 10. Firms’ impressions of compliance implications of regulations relevant to the Planning Act					
Regulatory area		Number of firms claiming each impact			
Legislation on land use and planning		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	0	1	2	1
	No impact	28	25	25	28
	Fall	1	3	2	0
	I don't know	54	53	53	54
	No response	26	27	27	26

<sup>51</sup> This distinction is not, generally, supported by definitions. The Planning Act offers no definitions. The former Agricultural Act defined a commercial farm as one on which the owner spends >50% of his/her working time, but the 2004 Agricultural Act has no such definition. Taxation authorities use income-related definitions.

<sup>52</sup> paragraphs 35 and 36.

## **5. The Environmental Protection Act**

### **5.1. Purpose of the Act**

The purpose of the Environmental Protection Act<sup>53</sup> (2001) is to protect nature and the environment, enabling a sustainable development of the society that respects the population's living conditions and allows the preservation of animals and plants.

### **5.2. Main Rules**

The main areas covered by the Environmental Protection Act are:

- Protection of soil and ground water (chapter 3);
- Protection of surface water (chapter 4);
- Polluting activities (chapter 5);
- Waste management (chapter 6); and
- Recycling and cleaner technology (chapter 7).

### **5.3. Stages of the food chain influenced by the Environmental Protection Act**

#### **5.3.1. Primary production**

The Environmental Protection Act regulates the use of fertilisers, and disposal of manure and sludge. The “manure directive”<sup>54</sup> defines the required land that must be available (owned or leased) for disposal of manure, based on numbers of on each farm, expressed as “Animal Units (AU).”<sup>55</sup> Large-scale livestock production activities are also governed by the EU directive requiring Integrated Pollution Prevention and Control (IPPC) activities on the farm, pursuant to chapter 5 of the Environmental Protection Act.<sup>56</sup>

Under the Planning Act, the VVM procedure identifies high pollution-risk aspects of specific projects, which are then embodied in conditions for the IPPC approval. The

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<sup>53</sup> Act no. 753 from August 25, 2001

<sup>54</sup> Reg. no. 877 from December 10, 1998 on commercial livestock production (the Manure Directive)

<sup>55</sup> Reg. no. 604 from July 15, 2002 defines AU according to Nitrogen production from animals (e.g. 1 Jersey cow is 1.0 AU, and 1 sow with piglets at foot is 0.23 AU).

<sup>56</sup> Reg. no. 652 from July 3, 2003 on approval of “IPPC” activities

Planning Act also specifies a “screening” procedure,<sup>57</sup> to determine whether the farm requires VVM-approval.<sup>58</sup> In addition to VVM approval, construction or expansion of large<sup>59</sup> livestock operations may also require IPPC approval.<sup>60</sup> Rules differ for sizes of farm and species of animal, and whether establishments are new or already in existence.

VVM and IPPC approvals impose additional conditions concerning distance to neighbours, collection and storage of manure and sludge, and disposal of fluids from silage. They also specify minimum areas of available agricultural land, and the crops to be grown thereon, used for spreading manure and sludge.

The procedure of obtaining VVM and IPPC approval is free of charge, and managed by local government. There is no time limit on VVM or IPPC approvals for farms.

### **5.3.2. Food processing plants**

For food processors, the Environmental Protection Act, and the associated EU directive concerning IPPC activities, requires approval of new constructions. In some cases this applies to new activities at existing plants, and may specify procedural and technical conditions on a case-by-case basis (see text box 6). As part of IPPC and VVM approvals, the Act enables counties and municipalities to mandate design and management features (including self-audit procedures) of:

- abattoirs with a capacity of more than 50 tonnes (carcass weight) per day, or more than 5.000 tonnes of poultry per year;
- food (other than milk) processing facilities with a capacity of more than 75 tonnes of food products per day;
- fluid milk processing facilities using more than 200 tonnes of raw milk per day on an annual average basis; and
- dairy processing plants producing cheese and dry milk using between 100 and 200 tonnes of raw milk per day on an annual average basis.

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<sup>57</sup> paragraph 6c

<sup>58</sup> Details of the screening procedure are stated in regulations no. 428 (June 2, 1999), no. 605 (July 15, 2002) and no. 655 (July 7, 2003) under the Act.

<sup>59</sup> defined as having more than 250 AU for farms with breeding sows, more than 100 AU for broiler production units, and more than 210 AU for farms raising slaughter pigs.

<sup>60</sup> as stated in the Environmental Protection Act (chapter 5).



Decisions made by the municipal or county council in connection with IPPC or VVM approvals may be appealed, by an establishment's owner, to the Environmental Approval Board.<sup>61</sup>

#### **Box 6. Example of environmental approval of a rendering plant**

The DAKA rendering plant in Løsning constructed facilities for treatment (by thermal combustion) of gas emissions. As the plant was an IPPC enterprise, the construction required environmental approval from the County. The approval was granted on January 14, 2004 subject to certain conditions:

- inclusion of 3 heat recycling channels to avoid escape of unburnt air during change of flow direction;
- procedural requirements (e.g education of the personnel operating the combustion system);
- several self-audit tasks concerning measurement of emissions of smell, organic carbon, ammonium, sulphuric acid and dioxins; and
- requirement that emissions measurement be done by certified laboratories.

*Source: Vejle County, January 2004.*

#### **5.4. Main monitoring authorities and procedures**

The county councils are the authorities responsible for granting VVM approvals (for farms and food processing establishments) and IPPC approvals to the food industry. Monitoring of farms addresses compliance with the conditions for the various approvals, and is carried out by municipality employees. For farms, this takes the form of an inspection every 1 or 2 years. Monitoring of food processing plants involves inspections, entailing reviews of compliance with the conditions imposed, and checks on compliance: particularly self-audit actions. There are no rules for the frequency of the inspections, but in general they are performed:

- high priority establishments (IPPC establishments with particular environmental problems and other establishments with “special enforcement problems”) approximately once per year;
- priority establishments (other IPPC establishments) approximately every two years; and
- other establishments (potentially-polluting establishments) approximately every four years.

Applications and approvals are free of charge, but approved food processing establishments are levied an annual inspection fee by the County of 23.000 DKK.

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<sup>61</sup> Miljøklagenævnet.

As is the case for the Food Act, self-audit in food processing plants plays a substantial role in monitoring. Self-audit actions and conditions are specified in approvals granted. These usually include an obligation to employ officially-certified testing firms and laboratories.

### **5.5. Apparent implications of compliance with the Environmental Protection Act**

For farmers, the Environmental Protection Act ties increases in animal numbers to land area. This has implications for farm structures, and is likely to raise land prices: both effects are likely to increase costs to food processors.

Processing plant design and other restrictions imposed under VVM and IPPC approvals have short and long term effects on costs through investments and alterations in scale and throughput. As in the case of the Food Act, the collection, storage and provision of information places substantial cost burdens on food processors.

No data was presented to the authors on the actual costs faced by Danish farmers and food processors as a consequence of the Environmental Protection Act.

### **5.6. Food industry firms' views about compliance with the Environmental Planning Act**

Between 30 and 40 of the 109 food industry firms surveyed claim that legislation on waste water and solid waste raise fixed and/or variable costs (table 11). Somewhat fewer (about 30 of 109) claim that the legislation raises sales prices and/or purchase prices. Rather fewer firms claim that legislation on air quality increases costs or prices.

The numbers of firms claiming that costs are raised by environmental legislation is similar to the numbers claiming that sales prices are raised. This is some indication that firms view the costs of environmental regulation as “systemic” and able to be passed on from farm level, eventually to consumers.

**Table 11. Firms' impressions of compliance implications of regulations relevant to the Environmental Act**

Regulatory area		Number of firms claiming each impact			
Legislation on waste water discharge		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	30	29	33	39
	No impact	32	26	29	22
	Fall	1	2	1	1
	I don't know	24	27	23	26
	No response	22	25	23	21
Legislation on solid waste disposal		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	30	27	35	39
	No impact	38	34	32	26
	Fall	0	1	0	0
	I don't know	19	23	19	22
	No response	22	24	23	22
Legislation on air quality		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	17	16	18	21
	No impact	38	33	36	32
	Fall	0	1	0	0
	I don't know	30	34	30	32
	No response	24	25	25	24

## 6. The Agricultural Act and Rules on Organic Agriculture

### 6.1. Purpose of the Act

The purpose of the Agricultural Act<sup>62</sup> (2004) is to protect agricultural land in a way that benefits both the environment and the economic interests associated with agricultural land, and that ensures sustainable exploitation of agricultural land and appropriate development of farming. This includes provision of guidance in improving the competitiveness of farming, the role of rural residency in rural development, and the preservation of owner-occupancy as the dominant model in Danish agriculture

### 6.2. Main Rules

The main topics covered by the Agricultural Act are:

<sup>62</sup> Act no. 435 from June 9, 2004.

- commitment to agricultural uses of rural land and buildings;
- distribution of land amongst farmers (the number of farms that can be owned or leased by a single farmer, and the number that can be managed by a single farmer); and
- conditions for the purchase of farms by persons and firms.

The Act imposes limitations on the number and size of pieces of land that can be bought by a single person, as well as limitations on companies' and other legal persons' rights to acquire and own agricultural land. Agglomeration of farms is also limited under the Act.<sup>63</sup>

A differentiation in farm ownership is made between small single-person or single-family firms<sup>64</sup> and others.<sup>65</sup> Trusts and large financial organisations may purchase farm land, but only in cases where their purpose is to allow public access for the appreciation of nature: not for farming purposes.<sup>66</sup>

### **6.3. Stages of the food chain influenced by the Agricultural Act**

In principle, the Agricultural Act influences only primary production. The Act contains a number of conditions for ownership of an agricultural property (i.e. a farm),<sup>67</sup> specifically that farm owners have:

- a duty to live on the land; and
- in cases where the farm's area exceeds 30 hectares,
  - an agricultural education; and
  - an obligation to manage the farm, and that such management is their main<sup>68</sup> occupation.

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<sup>63</sup> Chapter 12

<sup>64</sup> Selskaber

<sup>65</sup> Chapter 9

<sup>66</sup> Chapter 10

<sup>67</sup> Paragraph 12

<sup>68</sup> Not defined under the 2004 Act, but formerly meaning "more than 50% of the person's working hours".

#### **6.4. Main monitoring authorities and procedures**

The main monitoring authorities are each county's Agricultural Commissions, established by the Agricultural Act.<sup>69</sup> They comprise five members, one of which (the chairperson) has legal qualifications and is nominated by the county council, two are usually nominated by farmers' organizations, and one each from the Open Air Council<sup>70</sup> and the Danish Society for the Conservation of Nature.<sup>71</sup>

The Commissions are co-ordinated by the Directorate for Food, Fisheries and Agribusiness of the Ministry of Food, Agriculture and Fisheries.<sup>72</sup> The municipalities also conduct some monitoring of compliance of the Agricultural Act, mostly in connection with the inspections of farms' compliance with the Environmental Protection Act.

The Commissions make almost every decision concerning administration of the Agricultural Act, particularly on farmland transactions and compliance with mandatory farm residence. Permission for firms (i.e. legal persons and companies) to purchase agricultural estates are made by the Minister for Food, Agriculture and Fisheries, although some circumstances are identified in which this permission is not required.<sup>73</sup>

#### **6.5. Apparent implications of compliance with the Agricultural Act**

The Act restricts entry to farming, and constrains:

- entry to farming;
- vertically-integrated ownership; and
- farm size.

This is likely to restrict farmers' access to cost-saving management procedures and technologies, although no research has addressed this issue. The impacts on farms are not considered further in this study.

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<sup>69</sup> Paragraph 34

<sup>70</sup> Friluftsrådet

<sup>71</sup> Naturfredningsforeningen

<sup>72</sup> Agricultural Commission, Frederiksborg County (2004) interview

<sup>73</sup> Chapter 9

## **6.6. Rules on organic farming and organic food products**

EU regulation 2092/91 on Organic Farming covers the main rules concerning organic farming in the EU. It is further supported by Danish legislation.<sup>74</sup> In general, the Danish legislation is viewed as a means of establishing a “level playing field” (through standardization and transparency) for the organic section of the food industry. Under the Act on Organic Production, regulations outline the conditions for producing, processing, storing and handling organic products on farms and in the food processing industry. Such regulations encompass technical rules on production methods and procedures, permitted additives, and separation of organic from conventional food products.

The Act provides the basis for certification of farms and food processing facilities as organic, and thereby the right to use the Danish national “Ø-brand”.<sup>75</sup> The certifying and monitoring authority for farms is the Plant Directorate, and for food processors is the DVFA’s regional food centers. Certification procedures are free of charge to both farms and food processors.

## **6.7. Food industry firms’ views compliance with rules on organic agriculture**

Of the 109 food industry firms surveyed, about 70 did not know the impact of rules about organic food on their costs and prices, or did not respond to the question (table 12). Only 10 firms claim that the rules on organic farming and food products allow them to raise sales prices, while only 8 firms claim that their purchase prices are raised. Notably, 3 firms claim that the rules enable them to reduce their purchase prices. 25-30 of 109 firms claim that their cost and price levels are unaffected by rules on organic farming and food products.

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<sup>74</sup> Act on Organic Production, March 3, 1999

<sup>75</sup> Launched by the Danish government in the early 1980s, and now operated by the Plant Directorate.

**Table 12. Firms' impressions of compliance implications of regulations relevant to the Act on Organic Production**

Regulatory area		Number of firms claiming each impact			
Rules on organic farming and organic food products		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	10	8	10	9
	No impact	29	27	26	27
	Fall	0	3	0	0
	I don't know	46	45	47	47
	No response	24	26	26	26

## 7. The Animal Protection Act

### 7.1. Purpose of the Act

The purpose of the Animal Protection Act<sup>76</sup> (1991) is to ensure that animals are treated responsibly and protected against pain, suffering, fear, permanent injuries and severe discomfort.

### 7.2. Main rules

The main rules concern:

- treatment of animals, housing conditions, feeding and transport (chapter 1);
- surgery (chapter 2);
- slaughter (chapter 2);
- exhibition and sale (chapter 3); and
- monitoring and enforcement (chapter 4-8).

### 7.3. Stages of the food chain influenced by the Act

The direct impacts of the Act fall on primary production and slaughterhouses, as well as service operators (animal transport and trading). A specific impact on farmers is the law concerning indoor housing (see textbox 7 for an example of the degree of detail) and tethering<sup>77</sup> of animals.

<sup>76</sup> Act no. 386 of June 6, 1991

<sup>77</sup> This prohibits tethering of pregnant sows, amongst other practical specifications.

**Box 7. Example of calculations used for rules on housing of sows with piglets**

Number of animals per pen (sows)	Formula for calculating space X = number of sows
Up to 4	$(X \times 2.8)/m^2$
5-10	$((X-4) \times 2.2)/m^2$
11-17	$((X-10) \times 2.0)/m^2$
18-39	$(X \times 2.25)/m^2$
More than 39	$(X \times 2.025)/m^2$

Source: National Committee on Pig Production (2003)

A number of similarly-detailed rules exist concerning live transport of livestock. They specify both design and area of transporting vehicles, as well as restricting the duration of transport and detailing required resting and feeding arrangements. Instructions concerning facilities for receiving and slaughter of livestock include specifications on design of receiving areas, pre-slaughter housing and feeding, as well as slaughtering procedure.<sup>78</sup>

#### **7.4. Main monitoring authorities and procedures**

The Animal Protection Act is monitored by veterinarians and the police, and to some extent the general public. It is mandatory for veterinarians to report to the regional food centres of DVFA any observed “bad” livestock management and “irresponsible” treatment of animals. Members of the public may also report such observations to the police.

In cases of irresponsible treatment, the police must “remark” (see section 12.2) to the animals’ owner that improvements are required. The police are authorized by the Animal Protection Act to enter livestock holdings in this connection.

#### **7.5. Apparent implications of compliance with the Animal Protection Act**

Strictures under the Animal Protection Act (increased space per animal, longer weaning periods, enhanced ventilation, etc) are likely to place increased cost burdens on farmers, that will be passed on into the food industry. The extent to which the Danish

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<sup>78</sup> Reg. no. 1037 from December 14, 1994 on slaughtering procedures



pork industry has been able to charge a price premium for “animal-friendly” production attribute is unclear: the British market has recently offered such an opportunity.<sup>79</sup>

Transport and trading operators are also likely to face increased costs. For processors, impacts are likely to include increased costs associated with:

- delivery from farms and transport networks that operate at high-cost and low capacity utilization;
- animal handling and slaughter in the processing plant.

## 7.6. Food industry firms’ views about compliance with the Animal Protection Act

Of 109 food industry firms surveyed, 60-70 claim either that they do not know the financial impacts of animal welfare legislation, or declined to respond these questions (table 13). 22-26 of 109 firms claim that the legislation has no impact on their costs and prices. Just 16-18 of 109 firms claim that the legislation causes process and/or costs to rise. Surveyed food industry firms appear to view the costs of animal welfare legislation as being able to be passed on in the food marketing chain.

**Table 13. Firms’ impressions of compliance implications of regulations relevant to the Animal Protection Act**

Regulatory area		Number of firms claiming each impact			
Legislation on animal welfare during Production		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms					
	Rise	17	17	16	18
	No impact	26	26	25	22
	Fall	0	0	1	0
	I don't know	38	37	38	38
	No response	28	29	29	31
Legislation on animal welfare during transport and handling		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms					
	Rise	18	17	16	17
	No impact	23	23	25	23
	Fall	0	1	0	0
	I don't know	41	40	40	40
	No response	27	28	28	29

<sup>79</sup> National Committee for Pig Production (2004) interview

## **8. Competition and Antitrust legislation**

### **8.1. Purpose of the legislation**

The laws on competition are the Danish Competition Act<sup>80</sup> (2002) and the EU Treaty (articles 81 and 82). The purpose of both is to promote efficient use of resources through effective competition.

### **8.2. Main rules**

Danish and the EU rules are quite similar in specification but differ in application:

- the EU Treaty is used in cases affecting trade between the member states;
- the Danish Competition Act is used in cases affecting only the Danish market.

The rules prohibit agreements (and other “co-ordinated practices” between firms) that restrict free competition and abuse dominant positions. Prohibition means that such agreements are both illegal, and null and void under the law. Examples are those that:

- fix prices or other transaction conditions;
- restrict production;
- create exclusivity in markets or sources of supply; and
- bundle unrelated/unnecessary products and services.

However, such agreements are exempted if:

- an individual exemption under the EU Treaty has been granted, or if they satisfy the requirements for exemption provided by an EU regulation on group exemption (see below);
- it is a vertical or horizontal agreement within the same group of companies or an internal agreement within an co-operative society;
- the combined turnover of the participating enterprises is less than 1 billion DKK, and the combined market share is less than 10% of the relevant market; and
- the combined turnover is less than 150 million DKK even if the market share is more than 10%.

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<sup>80</sup> Act no. 539 from June 28, 2002.

These exemptions are not valid if the purpose of the agreement is to:

- fix prices or margins;
- manipulate bidding processes and results; or
- to create a cumulative effect of the agreement and other agreements that limits competition in the relevant market.

The Group Exemption for certain vertical agreements under the EU-treaty (article 81 paragraph 3) and the Danish Competition Act (clause 6),<sup>81</sup> allows existing exclusive supply agreements between farmer co-operatives and farmers that are members of that co-operative. Further, it is possible to obtain an individual exemption from the Competition Council (described below) where agreements promote efficient production or distribution, provided that a reasonable share of the profit is passed on to consumers.

Proof of abuse of dominant position first requires that the enterprise actually have such a position on the relevant market. Under competition rules, the market is defined both geographically and in terms of identical, complementary and substituting products.<sup>82</sup> Benchmark levels often applied are that a 50% market share constitutes a dominant position, and over 25% maintained during a long period might also constitute dominant position.

Firms may clarify their positions in a process of notification.<sup>83</sup> The process allows a firm to notify the Competition Council of its market share and supporting information in order that the Council can rule on whether or not the firm holds a dominant position, and whether it is abusing that dominant position. This decision is binding henceforth: if the decision is that no dominant position exists, the firm cannot later be charged with abuse of dominant position.

Competition rules are valid for both public and private enterprises. It follows from the Act on Certain Companies<sup>84</sup> (2002) that these rules also apply to co-operatives and foundations doing business. It stipulates definitions of the different types of legal persons and their official designations. In practice the Act ensures that in most respects co-operatives are treated like any other business venture.

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<sup>81</sup> Reg. no. 353 from May 15, 2000 on group exemptions

<sup>82</sup> see Baker (2003) for issues associated with definition of markets for policy purposes.

<sup>83</sup> Reg. no. 854 from August 30, 2000 on reporting of agreements

<sup>84</sup> Act no. 11 of January 9, 2002

Rules on merger and acquisition follow much of the same logic. These have the purpose of hindering the creation of enterprises that have a dominant position that potentially would limit competition.

### **8.3. Stages of the food chain influenced by the Act**

In principle, firms at all stages of the food chain are influenced, but farms are unlikely to be affected. Several recent high-profile food industry mergers in Denmark involving meat (Danish Crown and Steff Houlberg – see text box 8) and dairy (MD Foods in Denmark and Swedish Arla – see text box 9) attracted substantial public debate. This occurred both at the time of the mergers (concerning creation of dominant positions) and subsequently (concerning abuse of that position). The Danish Crown case was analyzed by the European Commission, as the merging companies' combined turnover would exceed EUR 5 billion.

#### **Box 8. Main findings from the merger Danish Crown-Steff Houlberg**

In November 2001, the Danish cooperatives Danish Crown and Steff Houlberg decided to merge. After the merger, the new company named Danish Crown, would annually purchase 90% of Danish slaughter pigs. The merger would also provide Danish Crown with increased market power in relation to the retailers, as Danish Crown would hold two thirds of the sales of chilled meat. This situation could lead to increased consumer prices.

Danish Crown expected that the merger would generate annual sales and marketing cost savings of 200 million DKK. Furthermore, economies of scale would be utilized.

Approval of the merger imposed conditions:

- 1) Danish Crown should improve pig producers' possibilities of supplying slaughter pigs to other meat processing companies
- 2) Danish Crown had to divest a slaughter facility with a weekly capacity of 10,000 pigs (2.5% of the Danish pig production)
- 3) Prices of meat for the meat processing industry is secure, relative to prices on export markets
- 4) Danish Crown must allow Danish or foreign competitors to use its distribution network for chilled meat to the retail market

Overall, 1-4 are designed to ensure that consumers and competitors are not made worse off than before the merger.

*Source: Competition Agency (2002).*

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### Box 9. Main findings from the merger Arla – MD Foods

In 2000, MD Foods (Denmark) and Arla (Sweden) decided to merge. The proposed new company (Arla Foods) would have a turnover of EUR 4.9 billion. As the turnover did not exceed the level at which the EU competition authority takes jurisdiction (EUR 5 billion), the merger could be approved by the Danish and Swedish authorities.

The post merger company was to become the largest dairy company in Europe, processing 6% of all EU milk. It would hold 90% of the Danish market for dairy products and 65% of the Swedish market. This level of influence in both raw material and consumer markets constituted a significant enough market disruption that MD Foods was compelled to divest two dairy plants (Mejeriet Grøndal and Gredstedbro Mejeri) before the merger could proceed.

The Competition Agency found that the merger would not have significant short term impact on the competitive situation in Danish and Swedish dairy markets. Its view was that in the long term, competition on the Danish market would be reduced by the merger.

*Source: Competition Agency (2000).*

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## 8.4. Main monitoring authorities and procedures

The main authorities on Competition Law are the Competition Council and the Competition Agency. Both are established under the Competition Act and operate from the Ministry of Trade and Industry:<sup>85</sup>

- the 18-member Competition Council<sup>86</sup> takes decisions in cases that are judged to be “large” or of “fundamental significance”; and
- the Competition Agency<sup>87</sup> monitors compliance with the Competition Act and EU rules on state aid to industry. Monitoring tasks are performed by 5 Groups,<sup>88</sup> each addressing one or more industries. The Groups maintain a communications network with firms, consumer groups and industry groups.

The Competition Council may request any information, including accounts and financial records and electronic data, that it considers necessary for its activities or for deciding whether the provisions of the Act are applicable. Having obtained a court order, the Competition Council may “investigate”. Initiation of an investigation empowers the Competition Council to enter the premises of a firm (or any firms performing services for a firm under investigation) in order to examine and make copies

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<sup>85</sup> Reg. no. 862 from September 5, 2000 and no. 951 from December 2, 1997 provide detail of the duties of the Competition Agency and Competition Council.

<sup>86</sup> Konkurrencerådet

<sup>87</sup> Konkurrencestyrelsen

<sup>88</sup> Konkurrencenheder

of business records. Daily or weekly penalty payments may be imposed for failure to provide information or access.

### **8.5. Apparent implications of compliance with competition rules**

The intuitive appeal of Competition Law is that it provides a legal basis for ensuring the efficacy of cost-reducing and consumer-oriented functions of free markets. One would expect the benefits to include lower food prices for consumers, and higher prices for farmers. Researchers disagree<sup>89</sup> as to:

- the extent to which Competition Law is effective in preventing non-competitive behavior (given the speed of organizational change in the food industry);
- whether the costs of formulation, implementation and enforcement of Competition Law are offset by its benefits; and
- whether benefits of competition law flow symmetrically upstream to farmers and downstream to consumers.

### **8.6. Food industry firms' views about compliance with competition rules**

Of 109 food industry firms surveyed, about 70 claim either that they do not know the financial impacts of competition rules, or declined to respond these questions (table 14). A consistent 30-40 firms state that their prices and costs are unaffected by competition rules. 4-6 firms claim that fixed costs and/or variable costs are raised, possibly due to the absence of assumed large-scale synergies for costs or transactions.

Just 2 firms of 109 claim that sales and purchase prices fall: this is surprising because one would expect firms to recognize that Competition Law is designed to deliver lower prices. Very few firms claim that prices are raised by competition rules: this is again surprising because firms might be expected to identify lost opportunities for cost savings.

Over 80 firms either do not know, or did not respond, when asked about the commercial impacts of regulation of farmer co-operatives under the Acts described above (there being no Danish legislation targeted directly at co-operatives). Small numbers of firms responding to the questionnaire interpret legislation relating to farmer co-operatives as having a significant impact on their costs and prices.

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<sup>89</sup> see Baker (2003) for a synthesis of these arguments.

**Table 14. Firms' impressions of compliance implications of competition rules**

Regulatory area		Number of firms claiming each impact			
Anti-monopoly legislation (regarding pricing and competitive conduct)		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	1	2	4	5
	No impact	35	35	33	32
	Fall	2	2	0	1
	I don't know	48	46	48	48
	No response	23	24	24	23
Anti-trust legislation (regarding merger and aquisition)		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	5	4	6	6
	No impact	35	38	34	35
	Fall	2	0	0	0
	I don't know	44	43	45	45
	No response	23	24	24	23
Legislation related to farmer co-operatives		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	5	3	4	4
	No impact	23	25	26	24
	Fall	0	1	0	1
	I don't know	57	54	53	53
	No response	24	26	26	27

## 9. The Product Liability Act

### 9.1. Purpose of the Act

The purpose of the Product Liability Act<sup>90</sup> (1989) is to establish liability for damages caused by products.

### 9.2. Main Rules

Any producer, seller (including any resellers) of products is legally liable for damages because of their defects.

Whoever suffers the damage must prove:

- that damage has occurred;

<sup>90</sup> Act no. 371 from June 7, 1989.

- that the product was defect; and
- that the damage was caused by the defect product.

The producer or seller is not liable if he proves that the defect could not have been detected prior to sale with the then-available scientific and technological state of knowledge.

### **9.3. Stages of the food chain influenced by the Product Liability Act**

Unprocessed agricultural products are not covered by the Act. The strongest influence is therefore likely to be on the food processing industry, restaurants and retailers.

General liability rules (which are not codified) are also of interest, as most damages would arise out of negligent or willful misconduct. This liability is subject to private litigation and requires the person or firm suffering damage to prove, that the damage is caused by negligence or willful misconduct and the actual (monetary) damage.

These rules have, until a recent decision concerning salmonella<sup>91</sup> been of little significance to the food industry. However, that case established a precedent that is expected to be used by claimants in the future.

### **9.4. Monitoring**

The Product Liability Act is not monitored by any specific authorities, being subject to private litigation in the courts.

### **9.5. Apparent implications of compliance with product liability law**

Little is known about impacts on the food industry: increased use of insurance by restaurants and food processors seems likely. Farms are less impacted by the law itself, but probably face cost and price implications of food processors' and retailers' actions as a consequence of the law.

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<sup>91</sup> In 1997, a private person contracted a Salmonella infection after consuming a hot sandwich, and suffered serious illness leading to more than 50% disability. In a decision in late 2003 the western division of the High Court accepted that there was a connection between the contaminated food and the subsequent damage. Damages were awarded against the establishment selling the food product. ([www.horesta.dk](http://www.horesta.dk))



**9.6. Food industry firms’ views about compliance with product liability law**

About 50 of 109 surveyed food industry firms either claim not to know the impacts of product liability law on their costs and prices, or did not answer the question (table 15).

Some 15-19 firms of 109 claimed that fixed and/or variable costs rise due to product liability law. For both sales prices and purchase prices, 17 of 109 firms claim that product liability law causes price rises. Based on the numbers of firms responding, they appear to view product liability as a systemic cost, able to be passed on to consumers.

Table 15. Firms' impressions of compliance implications of product liability law					
Regulatory area		Number of firms claiming each impact			
Product liability law		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	17	17	19	15
	No impact	42	38	36	41
	Fall	0	1	0	0
	I don't know	27	28	29	29
	No response	23	25	25	24

**10. Copyright, Patents and Trademarks**

**10.1. Purpose of the Acts**

The main legislation is the Patent Act<sup>92</sup> (2001), the Trademark Act<sup>93</sup> (2001) and the Copyright Act<sup>94</sup> (2003). They are collectively known as Intellectual Property Laws, and their purpose is to protect intellectual property rights.

**10.2. Main rules**

Copyright (under the Copyright Act) prohibits others from making unauthorized copies of protected work, but does not give any protection to underlying ideas. Copyright remains in force until 50 years after the death of the creator of the work.

<sup>92</sup> Act no. 781 from August 30, 2001

<sup>93</sup> Act no. 783 from August 30, 2001

<sup>94</sup> Act no. 164 from March 12, 2003

The Patent Act protects new inventions. Once a patent is granted, the holder has protection, and thereby sole right to produce according to the patent for a period of 17 years.

The Trademark Act protects trademarks (particularly, brands) across the whole food industry. Trademarks (under the Trademark Act) prevent others from using the brands. Brands can in principle be maintained perpetually, provided the applicable fees are paid and the trademark is regularly used.

### **10.3. Stages of the food chain influenced by intellectual property laws**

Patents are of greatest importance in the food processing industry in connection with ingredients, packaging and processing technologies. Brands (as an application of trademarks) are used in the marketing of food products. The advent of private label brands has recently altered the relationship between food retailers and their suppliers.<sup>95</sup> Copyright does not seem to be of major relevance in the food industry, other than in protecting the software used in food industry production and information systems.

### **10.4. Main monitoring authorities**

Registration of trademarks and granting of patents is performed by the Patents and Trademark Office.

Copyright is monitored by the Ministry of Culture.

Monitoring of intellectual property rights is left to the owners of the rights. Enforcement is by private litigation in the courts.

### **10.5. Application costs**

To obtain a patent, a firm must send an application and pay a fee of 3.000 DKK to the Patent and Trademarks Office. Furthermore, the firm must pay an additional fee for each country in which the patent is to be held. There are no worldwide patents, but a

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<sup>95</sup> The competitive implications of private label have been addressed elsewhere (e.g. Baker, 2003). A specific case is discussed in *Børsen* (February 2004) involving competitive aspects of Arla's (a processor) products "Arla Express" and "Danmælk" and Aldi's (A retailer) own label "Mælkebøtte".

broad geographic coverage may easily bring the cost to hundreds of thousands of DKK. Trademark protection is very much cheaper to obtain, as it requires only registration and a fee of 2.300 DKK. Copyright is established by creation of the work.

**10.6. Apparent implications of compliance with rules on copyright, patents and trademarks**

Patents are most common among companies with value-added products or strong technological know-how. This is particularly the case within the dairy industry or the manufacturing of food ingredients. Patents are costly to maintain when they must cover a range of countries.

Trademarks (including brands) are not expensive to establish, but may be costly to defend. Danish government agencies<sup>96</sup> and producer organizations<sup>97</sup> are involved in brand and trademark ownership

**10.7. Food industry firms’ views about compliance with rules on copyright, patents and trademarks**

Very few firms claim that rules on copyright, patents and trademark affect them commercially (see table 16). Of 109 firms surveyed, 3 firms claim that their sales prices are raised as a consequence of these laws. Just 2 firms claim that purchase prices are raised. 3-4 firms of 109 claim that these laws raise costs. Some 70-80 firms claim either that they do not know the financial impacts of these laws, or declined to answer the question. About 3 firms claim that these laws have no impact on prices and costs.

**Table 16. Firms’ impressions of compliance implications of rules on copyright, patents and trademarks**

Regulatory area		Number of firms claiming each impact			
Copyright and patent law		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	3	2	4	3
	No impact	30	30	28	29
	Fall	0	0	0	0
	I don't know	51	51	51	51
	No response	25	26	26	26

<sup>96</sup> e.g. the Ø-mark organic trademark  
<sup>97</sup> e.g. the Dairy Board’s “Lurpac” butter brand

## 11. The Act on Shop Opening Hours

### 11.1. Purpose of the Act

The purpose of The Act on Shop Opening Hours<sup>98</sup> (2000) is to regulate the opening hours of retail shops.

### 11.2. Main rules

The general rule under the Act is that retail shops:

- may be open until 20:00 on weekdays and 17:00 on Saturdays; and
- must be closed Sundays except for 8 weeks out of 52.

Specific rules state that:

- shops with less than DKK 24.1 million in annual turnover may be open on Sundays;
- shops located in transportation centres (defined in the Act as “in the same buildings that service passengers”) may open at times outside the general rules; and
- shops located in harbours may be open outside the general rules.

The Act states that it shall be reviewed in Parliament in the year leading up to October 2004. While no written proposals have been circulated, a proposed liberalisation has been discussed with food retailers (see text box 10).

#### **Box 10. Level of concern amongst smaller grocers about liberalisation of the Act of Shop Opening Hours**

The Minister of Industry has proposed a liberalisation of the legislation on shop opening hours. This has led to strong reactions from the Association of Danish Grocers (ADG).

ADG represents 1.500 groceries including operators of minimarkets and small supermarkets in Denmark:

- 91% of ADG members claim that more grocery shops will be forced to close after a liberalisation of the law;
- 76% claim that hiring staff will become more difficult; and
- 61% claim they will cease all investment until the final form of the new legislation is known.

*Source: Association of Danish Grocers (2004) interview*

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<sup>98</sup> Act no. 1260 from December 20, 2000.

### **11.3. Stages of the food chain influenced by the Act**

The Act directly concerns only the retail stage.

### **11.4. Main monitoring authorities and procedures**

The rules are monitored by the Commerce and Companies Agency, which is part of the Ministry of Trade and Industry. Shops (that is, each retail establishment) that open outside normal hours are obliged to file an annual declaration to the Commerce and Companies Agency stating that the shop has not exceeded the annual turnover limit. The declaration is filed on-line at the Commerce and Companies Agency's homepage.

Compliance is monitored by the police. Penalties for non-compliance are fines, which can range from an administrative fine of DKK 2.000 to an amount equivalent to the turnover from an illegal day's trading.<sup>99</sup>

### **11.5. Apparent implications of compliance with rules on Shop Opening Hours**

The Act favors small shops, especially those in rural areas, over larger shops. Indirect effects on food processors and distributors include possible costs associated with intermittent supply and product handling functions.

### **11.6. Food industry firms' views about compliance with rules on Shop Opening Hours**

Of 109 firms surveyed, 2-3 claimed upward pressure on costs and prices due to rules on business operating hours (table 17). Some 35-40 firms claimed that costs and prices are unaffected by this area of law and no firms at all claimed that prices or costs fell. About 70 firms claimed not to know the financial implications of laws on shop opening hours or did not answer the question.

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<sup>99</sup> Commerce and Companies Agency (2004)

**Table 17. Firms' impressions of compliance implications of rules on Shop Opening Hours**

Regulatory area		Number of firms claiming each impact			
Regulations on business operating hours		Sales prices of products	Purchase prices of raw materials	Fixed costs	Variable costs
Impacts claimed by firms	Rise	3	2	2	3
	No impact	38	39	36	35
	Fall	0	0	0	0
	I don't know	43	42	45	46
	No response	25	26	26	25

## 12. Sanctions and Breaches

### 12.1. An outline of sanctions used

In general, available sanctions (see table 12) that are relevant to the laws addressed in this report are:

- orders to comply;
- product recall;
- product confiscation and destruction;
- loss of approvals and permits;
- fines;
- payment of damages; and
- imprisonment.

### 12.2. Sanctions under the Food Act

In case of non-compliance with the Food Act and associated regulations, the DVFA may take several actions. The least severe is a “remark”, which identifies formally the fact that certain rules are not being complied with and that the firm must take action to do so.<sup>100</sup> Minor breaches of firms’ self-audit procedures can incur a fine of 5.000 DKK. More serious, frequent or prolonged breaches are punishable by larger fines.<sup>101</sup>

<sup>100</sup> “Remarks” are not reported centrally, so do not appear in enforcement statistics.

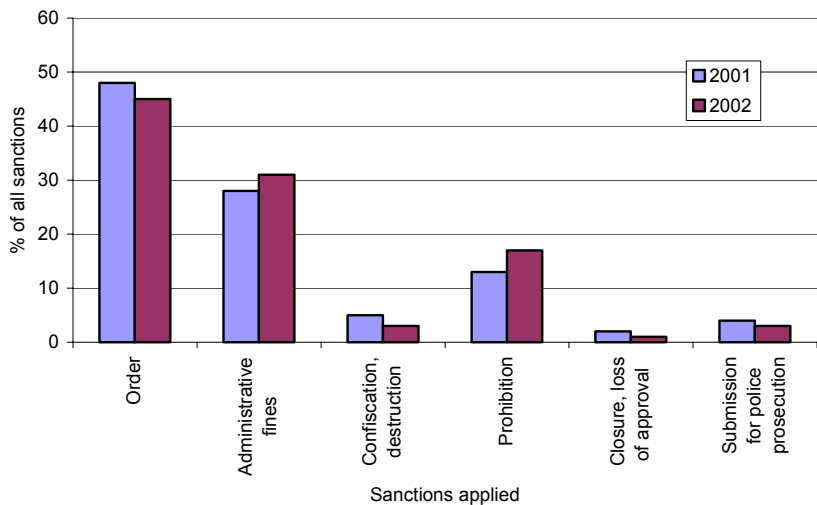
<sup>101</sup> Regional Food Centre, Copenhagen (2004).

The most recent data on sanctions and breaches are for 2002.<sup>102</sup> Examples of orders and prohibitions imposed on firms are:

- orders on the implementation and documentation of self-audit procedures after discovering hygiene problems;
- orders to document that a batch of food products which did not comply with the regulations has been recalled from the market; and
- a company’s prohibition from continuing production of a specified product line.

In 2002, 1.378 orders and prohibitions and 950 fines were issued. The total of 2.328 sanctions imposed equates to about one for every twenty inspections carried out.<sup>103</sup> Figure 5 shows the relative shares of sanctions used under the Food Act.

**Figure 5. Frequency and type of sanctions under the Food Act**



Source: DVFA (2002)

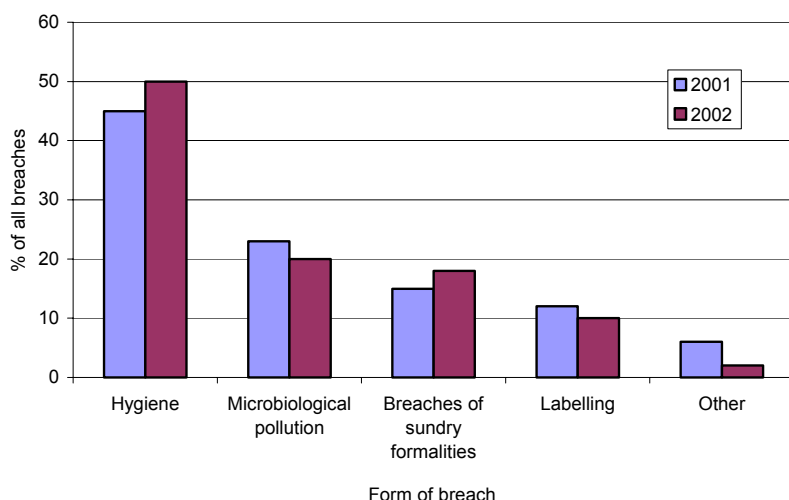
<sup>102</sup> “Fødevarekontrollen” (2002) prepared by DVFA, April 2004.

<sup>103</sup> DVFA (2004)

### 12.3. Detected Breaches of the Food Act

The number of breaches of the Food Act is not available, but DVFA releases data on the % falling into each major category (figure 6). Hygiene problems and microbiological pollution were the most common in 2001 and 2002.

**Figure 6. Breaches of the Food Act**



Source: DVFA (2002)

### 12.4. Sanctions used for breach of the Planning Act

The Planning Act includes the facility for the municipality or county council to issue orders to comply, to stop illegal use, or to rebuild. Sanctions can also include fines. Statistics on breaches of the Planning Act, and sanctions used, are not reported.<sup>104</sup>

### 12.5. Sanctions used for breach of the Environmental Protection Act

The Environmental Act includes orders to comply, to refurbish or rebuild facilities, to stop a polluting activity, and fines. Cases of gross negligence or willful misconduct creating serious environmental damage and/or significant economic advantages from

<sup>104</sup> Ministry of Environment (2004)



the breach may be punished by imprisonment. Statistics on breaches and sanctions are not reported.<sup>105</sup>

### **12.6. Sanctions used for breach of the Agricultural Act**

The Agricultural Act includes orders for the Agricultural Commissions to take action in case of breaches of the Act. Sanctions include orders (e.g. to rebuild, sell land or take permanent residence on the farm). In 2001, the Agricultural Commissions made 33 decisions on breaches, 29 of which were orders to farm owners to take permanent residence on their farms.<sup>106</sup>

### **12.7. Sanctions used for breach of the Competition Act**

The Competition Act authorizes administrative fines as a means to compel enterprises to comply with requests for information. These are not fines that may be imposed by other than administrative means.<sup>107</sup> Fines may be imposed on any party that uses anti-competitive agreements, unless the agreement has been notified in order to obtain an individual exemption. Fines may also be imposed for infringements of the prohibition against abuse of dominant position. Regarding infringements of the rules on mergers, fines may be imposed for failure to notify, or for implementing a merger prior to obtaining the Competition Council's approval. Relevant data are not collected.

### **12.8. Sanctions used for breach of the Shop Opening Hours**

Sanctions in the Act on Shop Opening Hours range from orders to document turnover, to court-levied fines. Further, repeat offenders may lose their right to sell alcohol. Fines can range from small administrative fines to sums calculated using illegal turnover as a base. Data on numbers of breaches and sanctions are not recorded.

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<sup>105</sup> Ministry of Environment (2004)

<sup>106</sup> DVFA (2004)

<sup>107</sup> it is up to the courts to decide whether a fine should be imposed in connection with a criminal procedure.

**Table 18. Overview of sanctions used**

Laws and Regulations	Administrative Sanctions		Court Sanctions	
	Reminders, orders, prohibitions, loss of approval	Administrative fines	Fines	Prison and other sanctions
The Food Act	Order to comply, product recall/destruction, prohibitions, loss of approval	Yes, subject to acceptance – otherwise only fines in court	Yes	Yes, in case of gross negligence/wilful misconduct causing health damage or creating economic advantages
The Planning Act	Order to comply, to rebuild or stop illegal use	Yes, enforcement fines	Yes	No
The Environmental Protection Act	Order to comply, to rebuild or stop illegal use	Yes, subject to acceptance – otherwise only fines in court	Yes	Yes, in case of gross negligence/wilful misconduct causing environmental damage or creating economic advantages
The Agricultural Act	Order to maintain buildings, to sell land (if more land than allowed is acquired)	No, but possibility to accept fines issued by the public prosecutor prior to prosecution in Court	Yes	No
The Animal Protection Act	Orders to tend animals, to destroy sick animals, to remove of animals	Yes, subject to acceptance – otherwise only fines in court	Yes	Yes, and loss of right to own or handle certain types or all animals
Competition Laws	Orders to comply	Enforcement fines	Yes	No - non-compliant agreements are null and void by law
The Product Liability Act	No	No	No	Private litigation
The Trademark, Copyright and Patent Acts	No	No	Yes	Yes under aggravated circumstances. Private litigation
The Act on Shop Opening Hours	Orders to document turnover	Yes, subject to acceptance – otherwise only fines in court	Yes	No, repeating offenders may lose rights to sell alcohol.

## **13. Recent legislation introduced and changes underway**

### **13.1. Proposed Legislation**

#### **13.1.1. New and pending legislation related to the Food Act**

The Minister of Food intends to propose a revision of the Food Act in October 2004, that will introduce a “license to trade” for persons operating restaurants, pizzerias and similar businesses, and retail food sales. The proposed license to trade has been discussed in Parliament, and is expected to pass into law during the Summer of 2004. It will come into force on July 1, 2005.

The license will be implemented under two different Acts. The Commerce and Companies Agency will be the enforcing authority:

- for restaurants and the like, the regulations will be implemented under a new Act on Restaurants. The license will require a test of applicants’ competence, but the test’s contents have not been finalized. It is likely that existing operators’ staff will not be subjected to the test.<sup>108</sup>
- for retailers (including supermarkets, bakeries, grocery stores, green grocers etc), the new rules will be implemented in a new Act on License to Trade. Persons owning a shop before July 1, 2005 will automatically receive a License to Trade. Others must pass a test.<sup>109</sup>

The new Acts will also establish a new central information register. Non-compliance with rules on self-audit, food hygiene and fire safety, as well as taxes, will be recorded. Non-compliance may result in loss of licenses as described above.

Changes in legislation on the labeling of food products are underway, while some existing GMO-related regulations will be enforced from April 2004. Food industry firms will be compelled to document that their raw materials and ingredients are free from GMO. If the food contains traces of GMO, the food will have to be labeled according to certain rules. This legislation is expected to impose significant costs on

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<sup>108</sup> Horesta (2004)

<sup>109</sup> Association of Danish Grocers (2004)

the Danish food industry (including ingredients industries) due to increased documentation requirements.<sup>110</sup>

The EU Directive on Food Labeling will be changed from November 2004. For Denmark, a major change will be that food products containing traces of allergens<sup>111</sup> must be labeled accordingly. This will place a substantial information burden on food processors, in addition to added labeling costs. Notably, the allergen-related labeling regulations will affect all firms producing and handling food, including deli-shops (see textbox 15).

#### **Box 11. Stricter regulations on labelling – Impacts on deli-shops**

All ingredients used in Danish “smørrebrød” (open sandwiches) must be documented for customers and food inspection authorities on request. The regulations encompass all food products, which are produced in the shop and sold as packaged food to customers. For a box with three open sandwiches, the consequence is that the deli-shop must present a list with all ingredients used for the bread, the butter, the meat and fish products and the remaining sandwich fillings. Ingredients used in the meat products (soy proteins, wheat fibres, spices or skim milk powder) must be identified and entered onto the deli-shop’s list ready for inspection.

*Source: Dansk Handelsblad, Feb. 13, 2004*

Food safety, and the association between food and health, are emphasized in new legislation at both EU level and in Denmark. As of January 1, 2005, clauses in Regulation 178/2002 regarding trace-ability and product recall enter into force. Compliance will require all firms in the food chain (farms, processors, retailers and restaurants) to expand their information systems. It will become mandatory for firms to document the origin of raw materials and marketing of finished products, and to produce evidence for procedures for withdrawal of products.<sup>112</sup>

The EU has drafted a proposal for Regulation 2003/0165 (COD) on Health and Nutrition Claims (introduced Summer 2003). This regulation proposes that health and nutrition claims can be made on food product labels. It will open the Danish market for functional food products, and is expected to be implemented as Danish legislation by 2005.<sup>113</sup>

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<sup>110</sup> Confederation of Danish Food Industries (2004) interview

<sup>111</sup> Examples of allergens are nuts, soy, gluten or wheat.

<sup>112</sup> Confederation of Danish Food Industries (2004) interview

<sup>113</sup> Confederation of Danish Food Industries (2004) interview

Proposed EU regulation concerning enrichment or addition of nutritious substances to food products (introduced in December 2003) will allow adding of nutritious substances to food products (e.g. vitamins, minerals, fibre) to all kinds of food product, with some exemptions proposed.<sup>114</sup>

### **13.1.2. New and pending legislation related to the Agricultural Act**

To accompany 2004's new Agricultural Act, the Minister for Food, Agriculture and Fisheries proposed 5 new laws to parliament in November-December 2003 concerning livestock production and land management.<sup>115</sup> In general, the pending legislation increases emphasis on (i) nature conservation and (ii) the international competitiveness of Danish agriculture.<sup>116</sup>

The proposed new laws concerning livestock production would introduce a significant simplification of the existing rules, as well as strengthening available sanctions. New sanctions would include prohibitions on keeping animals, and applicable prison sentences are increased to a maximum of 2 years.

### **13.1.3. New and pending legislation related to the Act on Shop Opening Hours**

The Minister for Economic and Business Affairs has requested and received proposals for a liberalization of the Act on Shop Opening Hours. The proposal is backed by a large number of organizations and major firms in the retail sector. However, concerns have been expressed by smaller grocers.

## **14. Conclusions**

### **14.1. Study content**

This study focuses on the policy environment experienced by Danish food processing, distribution and retailing firms. Farm-related issues are reported only in the context of costs that may be passed on to other elements in the food marketing chain.

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<sup>114</sup> e.g. alcoholic beverages or food products with a high content of fat or sugar may not be so enriched.

<sup>115</sup> Acts on Agricultural Estates, on Farmland and on Livestock Production

<sup>116</sup> Børsen, January 19, 2004

This study began by reporting Danish firms' claims that "regulation" was the single biggest problem that they faced. The subsequent investigation has listed the major instruments of Danish policy toward the food sector and described their form, purpose and some apparent compliance impacts. This involved desk research and identification of relevant laws and regulations. Imminent changes were also researched and reported. Extensive references are used to identify specific pieces of legislation, and the study then draws together the limited available data on breaches and sanctions used.

The impact of compliance with selected policy instruments has been addressed, firstly, by interviews with firms and industry groups. These interviews yielded considerable commentary on administrative and operational impacts, but very few interviews yielded information about costs associated with specific regulations or legislative areas. Even less commentary is available on benefits available to firms from food industry regulation.

The second method used for accounting costs and benefits to the food industry was to review literature on specific compliance actions. This yielded a range of estimates of financial implications for a small number of policy-related issues (mostly food safety-related). Aside from identifying the general lack of information about financial impacts of food policy on the food industry, this review also highlights the shortage of Danish studies on this subject.

The third method was to use firms' responses to a recent policy-oriented survey. In particular, firms' claims about price and cost impacts of policies are reported in raw form. As far as possible, inference is drawn about firms' views on whether incurred costs are passed along the food marketing chain, or not.

## **14.2. Main impacts of food industry policy**

### **14.2.1. Agricultural Production**

Agricultural production, and particularly livestock production, is strictly regulated in the Agricultural Act and the Planning Act. The strongest impacts are considered to be from the regulations on co-ordinated farm management, land ownership, and redistribution of land between farms. In practice, the regulations have probably led to higher land prices in areas with a high livestock density. They are likely to have contributed

to an increase in farm size and have restricted entry to farming. In addition, financial advantages from vertical integration and large scale farm operations are denied to Danish farmers. These are likely to be passed on in product prices as higher costs to the food industry and the consumer. Firms' responses to survey questions support this view.

Animal Welfare legislation has increased livestock producers' costs. Pending legislation on trace-ability (under the Food Act) will be felt particularly strongly on livestock farms, as they have never before been forced to document the origin of raw materials. Similarly, farms have never before had to present procedures for withdrawal of products from the market.

Where the cost impacts of food-related laws and regulations can be passed on to the consumer, then farmers are, to some extent, shielded from adverse price changes. However, where food retailers and processors cannot pass on such costs, lower farm gate prices may result. Based on reviewed survey results, this is notably the case for food safety. This presents the possibility of the perverse incentive that farmers find it less profitable to produce safer food. The consequence is that the costs of enhancing food safety will be incurred exclusively by food processors.

#### **14.2.2. Food processors**

Regulations under the Food Act strongly influence the design of food processing facilities and handling procedures, but the greatest influence is likely to be the requirement for self-audit and information provision. Firms' responses to survey questions do not reflect extreme concern over information provision: although the case of trace-ability offers an exception, where 30-40% of firms claim a resulting cost increase and 20-30 claim a resulting increase in sales and purchase prices.

Food processing firms will be impacted by new information costs associated with more demanding trace-ability practices. This entails the management costs associated with tracing farm supplies and documentation of product withdrawal procedures. Introduction of new regulations on labelling (e.g. information health claims, allergens or traces of GMO) are likely to impose higher information-related costs on food processors. It can be inferred from survey responses that firms feel that food safety-related costs may be difficult to pass on to the retailer and consumer as higher product prices.

Pollution-related regulations under the Environmental Protection Act impact the food processing industry, particularly through the specification of technologies and plant design features. Food processing firms face high costs in terms of environment-related self-audit. Firms appear to interpret these costs as being able to be passed on as higher product prices.

The impacts of the Animal Protection Act are likely to be felt more in future at farm level than by processors. Having adopted compliant procedures, processors will face few new costs. Survey results indicate that food processors associate animal welfare with high costs, but that these costs can be passed on to retailers and consumers.

Continued merger activity is expected in the Danish food industries (dairy, meat, eggs and poultry sectors, as well as at distribution and retail stages). This is likely to encounter restrictions both from Danish law (as concentration increases) and EU law (as cross-border activities and mergers gain importance). Little information is available about firms' perceptions of existing or perceived impacts of competition law. Notably, a number of firms claim to be disadvantaged by laws associated with farmer co-operatives, presumably their competitive behaviour.

Product liability law is likely to impact firms' behaviour in the future. Increased use of insurance, and more demanding food safety requirements from suppliers, can be expected to raise costs throughout the food marketing chain.

#### **14.2.3. Food distributors, retailers and food services**

Approval under the Food Act requires substantial investment in procedures, specifically self-audit and reporting. A potential long term impact is that large firms (owning many retail or restaurant establishments) will find it easier to succeed in applications for approval, thus discouraging entry by new or small firms. Pending legislation on the introduction of a license to trade (in retailing and restaurant business) may be expected to reinforce such an effect.

The Planning Act restricts the establishment of large stores, and the location of stores away from traditional urban centres. The Act on Shop Opening Hours has a related bias toward small stores, and small retailers and grocers are deeply concerned about liberalization of the Act.



### 14.3. Apparent impacts and firms' claims

This study indicates that the policies with the most significant short term impacts on the Danish food industry are the Food Act, the Planning Act, the Environmental Protection Act and (to a lesser degree) the Animal Protection Act (table 19).

**Table 19. Summary of apparent short- and long-term policy impacts**

	Short term impacts			Long term impacts		
	Primary Production	Food Processing	Retailing	Primary Production	Food Processing	Retailing
The Food Act	XXX	XXX	XXX	XXX	XXX	XX
The Planning Act	XX	XX	XXX	XXX	XX	XXX
The Environmental Protection Act	XXX	XXX	X	XXX	XXX	
The Agricultural Act	XXX			XXX	X	
The Organic Act	XX	XX	XX	X	X	X
The Animal Protection Act	XXX	XX		XXX	X	
Competition Laws		XXX	X		XXX	XXX
Company Laws	X	X	X		XXX	XXX
The Product Liability Act	X	XX	XX	XXX	XXX	XXX
The Patent Act	X	XX	X			
The Trademark Act	X	XX	XX			
The Act on Shop Opening Hours			XXX			XXX

BLANK = no influence, X= low influence, XX = medium influence, XXX = high influence

Survey results (see table 20) indicate that, for these four most significant short term legislative areas, most food processing firms either do not know the financial implications or failed to answer the question. For those that did, numbers of firms claiming cost increases are generally equal to those claiming price increases. This is interpreted as firms' claiming that, to some extent, costs can be passed on to consumers. The exception is food safety, for which only 20% of firms claim not to know the financial impact, and there is some evidence that the costs incurred cannot be passed on to consumers.

While we identify some policy areas as moderately significant in the short term (e.g. Competition and Company Laws, the Trademark Act), the majority of firms claim, in the survey, not to know their commercial impacts. Of the firms that do claim to know the impact, most claim that these regulatory areas have no impact on prices or costs (table 20).

**Table 20. Summary of firms' claims on impacts of policies**

Legislative area	% of firms expecting a rise in each variable, due to laws					Possibility to pass costs through to consumers*
	Don't know/ No response	Sales prices	Purchase prices	Fixed costs	Variable costs	
The Food Act						
- Information-related legislation	50	10	10	10	10	YES
- Food safety-related legislation	20	20	20	35	35	NO
The Planning Act	70	0	0	0	0	
The Environmental Protection Act	30-40	20-25	20-25	20-25	20-25	YES
The Act on Organic Production	50	7	7	7	7	YES
The Animal Protection Act	40-50	15	15	15	15	YES
Competition Laws						
- Antitrust and antimonopoly	50-60	0	1	4	4	
- Related to co-operatives	60	3	3	3	3	
The Product Liability Act	50	15	15	15	15	YES
The Patent Act	65	2	2	3	3	
The Act on Shop Opening Hours	55	2	2	2	2	

\*as evidenced by relatively (significant) numbers of firms claiming impacts on costs, sales prices and purchase prices.

We have supplemented table 19 to draw conclusions on long term impacts of policies on industry dynamics (e.g. impacts on entry and exit and on industry structures). Again, the Food Act, the Planning Act and the Environmental Protection Act are anticipated to be most influential. An increased influence is anticipated for Competition Laws and Product Liability laws. Competition Law will dictate the extent to which industrial concentration can proceed in the Danish food industry, and Company law will influence the capacity of traditional Danish firms (e.g. farmer-owned co-operatives) will be able to adjust to it. Similarly, the Act on shop opening hours has the potential to influence size distribution and market power in Danish retailing.

#### 14.4. Industrial dynamics

Little industry commentary, and no Danish research, addresses the possible association between food industry policy and industrial concentration. No regulation under the Food Act differentiates between firms according to size, but it seems likely that larger firms, and firms owning more numerous establishments, will find approval processes more familiar and cheaper to negotiate. Similarly, they are likely to be better prepared for data collection, storage and delivery. Having used HACCP in the

past, their internal management systems are ready for increased self-audit demands. In another example, large, diverse and multi-plant firms are likely to be better able to negotiate insurance against product liability claims than are small specialist firms.

Across a range of currently and potentially significant food policy areas, cost pressures appear to favour an acceleration of concentration. Increased retail and processing concentration is often associated with narrowing of marketing channels, increased use of retailers' own-label brands, and downward price pressure on food processors. This reduces processors' ability to pass on costs to the consumer.

Little notice appears to have been taken of the extent to which costs can be passed on to consumers in the food marketing chain. Perhaps of more concern is the extent to which specific stages of the chain (particularly farmers) might be unable to pass on costs. Farmers are restricted in their cost reduction strategies by size, residency and ownership rules (under the Planning Act and the Agricultural Act), and by the entry costs associated with further processing (the Food Act, Environmental Protection Act and Planning Act). Farmer co-operatives are a well-established structure for offsetting Danish farmers' individually-weak competitive status, but no evaluation has been made regarding co-operatives' ability to address the range of food policy-related costs listed here. Concentration by co-operatives has met with Danish and EU-level scrutiny in the past, and appears likely for the future.

#### **14.5. Future research challenges**

This study has identified a shortage of information about linkages between the status of, and trends in, food industry policy and the pressures it places on food industry participants. Anecdotal evidence suggests considerable concern amongst Danish firms about the cost implications of a range of policies. Interpretation of elements of those policies reveals potential for both short term (cost-related) and long term (adjustment-related) impacts for the Danish food industry. Past policy research has focused on farmers and consumers: research is needed into the implications for the firms themselves, and for the future configuration of products, services and prices in the Danish food marketing chain.

Identification of the impacts of individual policy areas is a vital part of food industry policy research. Methodological advances are needed to define and describe impacts, so that they can be measured and modelled.

Of immediate interest is the size of costs and benefits to Danish firms from compliance. Of more systemic interest is the extent to which those costs and benefits are passed “forwards” to consumers and to society at large, and “backwards” to farmers and input suppliers. To a large degree, firms’ competitive strength will influence their ability to absorb, avoid, or pass on the various types of cost and benefit. However, a complex relationship amongst cause and effect is encountered: cost pressures may themselves contribute to the changing competitive environment. The relationship between Danish firms’ size and competitive strength, and the incidence of policy-induced costs represents a significant area for research. Of particular interest is the likely future performance of farm co-operatives.

Little evidence was uncovered to suggest that Danish food industry firms face stricter or more costly policy instruments than do firms elsewhere in Europe. A formal investigation of this topic is needed. Even in the case of identical legislation, countries face a range of costs for compliance, implementation and monitoring. The extent to which Danish firms may be disadvantaged remains unknown.

The material compiled in this study addresses Danish international competitiveness within Europe and in the world at large. As a research question, the incentives for Danish exporters (particularly of meat and dairy) to serve the domestic market need examination. In an extreme scenario, large scale exit by Danish firms would leave the domestic market short of product and open to “invasion” by multi-national retailers. Research is needed into the incentives that exist for such change, and its potential impacts.

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